

PSYCHOLOGICAL ABSTRACTS

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GENERAL (incl. Statistics)

4321. Alexander, F. Sigmund Freud: 1856-1939. *Psychosom. Med.*, 2, 1940, 68-75.—A description and evaluation of Freud's contributions.—P. S. de Q. Cabot (Simmons).

4322. Allesch, J. v. Die Begriffe Ganzheit und Eigenschaft. (The concepts of whole and attribute.) *Arch. ges. Psychol.*, 1939, 105, 36-57.—The wholes which are so convenient for approaching the phenomena of science retain relations to their attributes in such a way as to make summative procedures appropriate except in certain biological realms. This applies to Köhler's physical Gestalten. In biological and psychological areas, especially in dealing with personality variables, the concept of attribute seems inadequate. But this does not justify Driesch's contention that wholes have an intrinsically unique nature. The subjectivity of Gestalten in psychology depends upon Gestalt-producing factors in human nature.—H. D. Spoerl (American International College).

4323. [Anon.] Austen Fox Riggs; obituary. *Ment. Hyg.*, N. Y., 1940, 24, 250-251.—P. Brand (New York City).

4324. Bateman, J. V. Professor Alexander's proofs of the spatio-temporal nature of mind. *Phil. Rev.*, N. Y., 1940, 49, 309-324.—Alexander's introspective proof of the spatio-temporal nature of mind is inconclusive, because he will not allow that mind or its acts can be contemplated. He contends that they can only be "enjoyed." But the very characteristics of continuity, successiveness, and irreversibility attributed to time by Alexander involve awareness of a time order which transcends the inarticulate directness of "enjoyment." So do the characteristics of space. Alexander's attempt to prove the spatio-temporal nature of mind from the spatio-temporal properties of neural processes is irrelevant unless neural and mental processes are identified, and such identification is a virtual repudiation of the theory of emergence so vital to Alexander's cosmology; it also commits him to the behaviorism which he explicitly repudiates.—M. F. Martin (West Springfield, Mass.).

4325. Blakey, R. A re-analysis of a test of the theory of two factors. *Psychometrika*, 1940, 5, 121-136.—The study of William Brown and William Stephenson, "A Test of the Theory of Two Factors," is re-analyzed by means of the Thurstone multiple factor methods. No tests or correlations are left out of the original table of correlations as is done in the original analysis in an attempt to validate the

two-factor theory. Space, verbal, and perceptual speed factors similar to those found by Thurstone, Wright, and Garrett are identified. A common factor of "Maturation" is postulated to account for the remaining communality of the tests. A fifth factor is considered to have no significance due to the small amount of variance which it contributes to the total.—(Courtesy *Psychometrika*).

4326. British Orthoptic Society. The British orthoptic journal. Shrewsbury, England: Wilding & Son, Castle Street. Vol. 1, 1940. Annual. 5/6.

4327. Brunswik, E. The conceptual focus of some psychological systems. *J. unified Sci.*, 1939, 8, 36-50.—An attempt to describe certain psychological systems topologically by diagramming the concepts they use most in practice. The basic diagram depicts the life history of an organism, with such past periods marked off as "remote past" and "proximal stimuli," the present labelled "intra-organismic events and dispositions," and the future divided into such subdivisions as "proximal reactions" and "far reaching successes."—C. A. Baylis (Brown).

4328. Buytendijk, F. J. J. Wege zum Verständnis der Tiere. (Approaches to the understanding of animals.) Zürich, Leipzig: Max Niehan, 1940. Pp. 264.—This is a critical and interpretative study of the following topics: general problems of behavior, responses of unicellular animals, the senses, instinct, reflexes, habit, and intelligence. A brief bibliography is included.—W. S. Hunter (Brown).

4329. Casanova, T. Corrections to correlation coefficients on account of homogeneity in one variable. *J. exp. Educ.*, 1940, 8, 341-345.—Statistical formulae are derived for estimating the correlation that would be obtained for a total group if both variables were heterogeneous from a correlation that has been observed when one of the variables is homogeneous.—H. W. Karn (Pittsburgh).

4330. Charms, G. de. Swedenborg's psychology. *New Philosophy*, 1940, 43, 328-341.—Swedenborg's theory of psychology was philosophical but also physiological. The hierarchy of mental processes is treated as a series of modifications of sensory processes; these modifications are determined by the central organization. Swedenborg stressed the importance of empirical observation and helped to combat the doctrine of animal spirits. He conceived of psychology as dynamic, and maintained the primacy of the will.—H. D. Spoerl (American International College).

4331. Collins, M. Alfred Adler, 1870-1937: a critical appreciation. *Brit. J. educ. Psychol.*, 1940, 10, 91-96.—While later popularization of his

theories, with sacrifice of scientific exactitude, may bar Adler from the ranks of great psychologists, his contribution to psychology is not inconsiderable. In the field of psychopathology, his interpretation of the neuroses on the basis of organ inferiority has facilitated a rapprochement between orthodox medicine and the "new" psychology. Largely a product of the environment in which he lived, Adler owed much of his inspiration to Freud, although differing with him on many of the main tenets of both theory and therapy. His later writings show a pedagogical interest, marked by a more philosophical trend and a departure from the scientific character, yet they have found ready acceptance and application in the fields of child guidance and mental hygiene.—R. C. Strassburger (St. Joseph's College).

4332. Costa, A. *Di un principio della fisica e della psicologia: principio di minimo.* (A principle of physics and psychology: a minimum principle.) Turin: Paravia, 1937. Pp. 144. Lira 8.—A statement of the essential principles of physics (minimum duration, minimum action, Leibniz's simplicity principle, etc.) and of psychology (Avenarius' economy principle, Stern's personalistic doctrine, etc.), together with a brief conclusion indicating the correspondence between the two. Unification is impossible, however, because of a lack of analytical formulation.—(Courtesy *Année psychol.*)

4333. Dunlap, J. W. Note on the computation of tetrachoric correlation. *Psychometrika*, 1940, 5, 137-140.—The author presents in detail two machine-methods for the computation of tetrachoric correlations, one for a test containing less than 80 items and one for a test containing more than 80 items.—G. F. J. Lehner (Miami).

4334. Ezarchopoulos, N. [Dir.] *Wissenschaftliche Forschungen des Laboratoriums für experimentelle Pädagogik der Universität Athen.* (Scientific studies from the laboratory of experimental pedagogy of the University of Athens.) Athens: 1938. Pp. 15.—The work of this laboratory during the past 15 years is briefly outlined. The purpose of the work has been, aside from the training of prospective teachers, the determination of the physical, psychological, and ethical status of the Greek child and youth. Among the test material used has been an adaptation in the Greek language of the Stanford-Binet scale.—(Courtesy *Année psychol.*)

4335. Fauville, A. *Dispositifs techniques de laboratoires.* (Technical laboratory controls.) *Année psychol.*, 1940, 39, 252-258.—A description of laboratory apparatus, including a chronoscope with attached relay, a Wheatstone bridge for measuring the psychogalvanic reflex, a chronograph, a tachistoscope with direct vision, and an apparatus for electric stimulation which is independent of the changing resistance of the subject.—H. Beaumont (Kentucky).

4336. Flood, M. M. A computational procedure for the method of principal components. *Psychometrika*, 1940, 5, 169-172.—An n -rowed correlation

matrix may be thought of as an ellipsoid in n -dimensional space with its center at the origin. The principal components of the matrix are essentially the semi-axes of the ellipsoid. A direct and simple method of computing the lengths and directions of these semi-axes is presented.—(Courtesy *Psychometrika*).

4337. Ganz, M. *Adlers psykologi och barnets utveckling.* (Adler's psychology and the development of the child.) Stockholm: Natur och Kultur, 1940.—This book is a brief exposition of Adler's psychology and the application of it to the education of the child in home and school, from the author's half-year experiences in Vienna.—M. L. Reymert (Mooseheart Laboratory for Child Research).

4338. Greenhood, E. R., Jr. Detailed proof of the chi-square test of goodness of fit. Cambridge, Mass.: Harvard Univ. Press, 1940. Pp. 73. \$1.25.

4339. Guilford, J. P., & Walton, W. E. *Studies in elementary psychology: a manual and workbook.* New York: Van Nostrand, 1940. Pp. xi + 266. \$2.25.—A manual designed especially for use with Guilford's *General Psychology* and with corresponding chapter headings. For each chapter demonstrations, exercises, demonstration films, and "study tests" are provided. There are numerous illustrations of apparatus and references to related readings. The workbook is paper-covered, and the pages are punched for loose-leaf rings.—L. J. Stone (Vassar).

4340. Gurwitsch, A. *Le fonctionnement de l'organisme d'après K. Goldstein.* (The functioning of the organism according to K. Goldstein.) *J. Psychol. norm. path.*, 1939, 36, 107-139.—Goldstein rejects the simple stimulus-response theory of nervous action for a more complicated theory which regards the nervous system as a net which is never at rest but always in a state of average excitation. In terms of this theory he discusses localization and specificity of response, anxiety, fear, ambivalence, Gestalt theories of perception, cortical lesions, etc.—R. E. Perl (New York City).

4341. Guttman, L. Multiple rectilinear prediction and the resolution into components. *Psychometrika*, 1940, 5, 75-99.—It is assumed that a battery of n tests has been resolved into components in a common factor space of r dimensions and a unique factor space of at most n dimensions, where r is much less than n . Simplified formulas for ordinary multiple and partial correlation of tests are derived directly in terms of the components. The best (in the sense of least squares) linear regression equations for predicting factor scores from test scores are derived also in terms of the components. Spearman's "single factor" prediction formulas emerge as special cases. The last part of the paper shows how the communality is an upper bound for multiple correlation. A necessary and sufficient condition is established for the square of the multiple correlation coefficient of test j on the remaining $n - 1$ tests to approach the communality of test j as a limit as n increases indefinitely while r remains constant. Limits are established for partial correlation and

regression coefficients and for the prediction of factor scores.—(Courtesy *Psychometrika*).

4342. Haggard, H. W. [Ed.] *Quarterly journal of studies on alcohol*. New Haven: Journal of Studies on Alcohol, Inc. Vol. 1, No. 1, June 1940. \$3.00.

4343. Hall, F. A. *Statistical measurement in group work*. U. S. Child. Bur. Publ., 1939, No. 248. Pp. vi + 103. \$0.15.—"This manual on statistical records for group-work agencies has been prepared for the purpose of helping workers in the group-work field to collect efficiently and to use effectively statistical data related to their work."—G. R. Thornton (Purdue).

4344. Jaensch, E. R. *Die psychologische Anthropologie als völkischer Kultur- und Erziehungsfaktor in einem europäischen Lande*. (Psychological anthropology as a factor in popular culture and education in a European country.) *Z. Psychol.*, 1939, 147, 146-169.—Theophilus Boreas, who obtained his doctorate under Wundt in 1899, represents in his life and works the new thought evolved during Germany's recent renaissance—realistic idealism. Only a combination of insight and intuition can lead to worthwhile knowledge which is vital and real, but there are few instances of such a philosophy becoming a significant factor in national life. Boreas has succeeded in influencing the thinking of his native Greece in this direction by his long insistence that science should be pragmatic and realistic.—H. Beaumont (Kentucky).

4345. Kelley, T. L. *Comment on Wilson and Worcester's "Note on factor analysis."* *Psychometrika*, 1940, 5, 117-120.—The author discusses several criticisms made of factor analysis by Wilson and Worcester in a previous article.—G. F. J. Lehner (Miami).

4346. Lambek, C. *Studies in the dynamic coherence of mental life*. Copenhagen: Levin & Munksgaard, 1938. Pp. 131.—There is a dynamic coherence in our existence and in the environment which can be grasped only by bilateral thought movements and a cooperation between the static and dynamic points of view. This dynamic coherence is indicated by the fundamental fact that relations of dependency exist between certain facts. The author refers in explanation to such functional variations as intensity, attention, and affective tone, and to such variations in mental structure as adaptation, values, and coherence between means and ends.—(Courtesy *Année psychol.*).

4347. Lynch, J. A. *A criticism of Dewey's theory of the stimulus*. *Phil. Rev.*, N. Y., 1940, 49, 356-360.—Dewey has said, "The stimulus is simply the earlier part of the total coordinated serial behavior and the response is the latter part." Where, exactly, does the stimulus leave off and the response begin? Lynch criticizes the common conception of the stimulus as the condition for the initial stage of an act or series of acts, on the ground that it is not fruitful for an analysis of human behavior or practical for education. He suggests that if we are

interested in "the mature habit" we should conceive of the stimulus as "the total condition for its complete maturity." Stimulus thus conceived would include the practice value of every member of a series of activity cycles up to the stage where no further modification of the habit occurs.—M. F. Martin (West Springfield, Mass.).

4348. Mosier, C. I. *A modification of the method of successive intervals*. *Psychometrika*, 1940, 5, 101-107.—A modification of the method of successive intervals is presented which yields scale values correlating .995 with those from Thurstone's method described by Saffir. Values yielded by the present method can be obtained in 25 per cent of the time required by the older method and are shown to be, on a priori grounds, more reliable as well.—(Courtesy *Psychometrika*).

4349. Müller, G. F. W. *Die Anthropologie des Carl Gustav Carus*. (The anthropology of Carl Gustav Carus.) Berlin: Junker & Dünhaupt, 1938. Pp. 117. RM. 5.20.—G. F. J. Lehner (University of Miami).

4350. Oelrich, W. *Über die geistige Ausdruckserscheinung und die Möglichkeit ihrer psychologischen Auswertung zur Erfassung der Persönlichkeitsstruktur*. (Types of mental expression and the possibility of their psychological evaluation as a measure of personality structure.) *Z. Psychol.*, 1939, 147, 183-214.—It is confusing to use the term "thought form" in connection with types of mental expression, because they are products of different functions—cognition, emotion, and volition. The contribution of each function to the final product should be evaluated separately and not merely intellectually, which measure applies only to the cognitive element. The prevalence of one functional area in mental expression need not involve deficiency in others, and a better knowledge of functional abilities may be obtained by stimulating each of them by appropriate conditions. In their evaluation it should be remembered that mental expressions are not always simply subjective, but that their form frequently is partly determined by the objective situation. In all cases the different functional areas must be considered in a psychological study of expressive forms.—H. Beaumont (Kentucky).

4351. Oesterle, F. *Die Anthropologie des Paracelsus*. (The anthropology of Paracelsus.) Berlin: Junker & Dünhaupt, 1938. Pp. 151. RM. 6.50.—A consideration of Paracelsus and his time, with special consideration of the intellectual climate within which he worked.—G. F. J. Lehner (University of Miami).

4352. Okamoto, S. *Ippan shinrigaku*. (General psychology.) Tokyo: Tōyō tosho Kabushiki-gōshi Kaisha, 1940. Pp. 348. Y. 2.80.—The book consists of four parts: Part I, outline of psychology and human nature in general, contains chapters definition of psychology, human being, human being and environment, and mental development; Part II, analytic consideration of human nature, which contains such chapters as behavior

and consciousness, drives and feeling, intelligence, will and action; Part III, individuality, containing intelligence, character, and nationality; and Part IV, application of psychology. Two articles entitled "On the process of character formation in youth" and "Tables of self-diagnosis pertaining to temperament and character" are appended.—*R. Kuroda* (Keijo).

4353. Osipov, V. P. [Ed.]. [Transactions of the Session of the Bekhterev State Institute for Brain Research, April 5-7, 1938. Vol. XI.] Leningrad: 1939. Pp. 208.—This collected volume contains papers read at the 20-year jubilee of the Bekhterev State Institute for Brain Research. The program reflects the main line of the Institute's work on the investigation of man and of his psychic activity. Four meetings include: (1) ontogenetic studies, (2) psychological studies, (3) psychopathology, vegetative processes, and vegetative centers of the brain, (4) new data on the physiology of the autonomic nervous system and plasticity of the central nervous system.—*A. Yarmolenko* (Leningrad).

4354. Rohrer, H. Vorarbeiten zu einer Theorie der psychischen Allgemeinzustände. (Outline of a theory of mental states.) *Z. Psychol.*, 1939, 147, 170-182.—Each individual experience occurs in a certain psychic milieu which coexists with the event in a vaguely conscious manner. This background, against which the primary experiences stand out and through which they are colored and individualized, is not a residue of those experiences, but rather the result of other, preceding events, of the momentary organic condition of the organism, and of constitutional factors. The perseverance of a psychic state is dependent upon constitutional type, and is considerably more pronounced in certain individuals than in others who fluctuate readily from one state to the next. The author suggests the name "psychosphere" and promises to explain in a forthcoming article how the associative element in memory does not involve temporal contiguity but rather identity of "psychosphere."—*H. Beaumont* (Kentucky).

4355. Ségel, J. Les interactions des éléments corticaux et la théorie de la forme. (The interaction of cortical elements and Gestalt theory.) *J. Psychol. norm. path.*, 1939, 36, 21-36.—Köhler's theory of lines of force has up to now been considered in opposition to physiological postulates. The author quotes recent experiments on the nervous system which tend to give more physiological support to Gestalt theory. He discusses polysynaptic fields, simple forms, optico-geometric illusions, stroboscopic movement, and localization.—*R. E. Perl* (New York City).

4356. Shen, E. Experimental design and statistical treatment in educational research. *J. exp. Educ.*, 1940, 8, 346-353.—A discussion of the statistical controls most appropriate for various types of educational research.—*H. W. Karn* (Pittsburgh).

4357. Thurstone, L. L. Experimental study of simple structure. *Psychometrika*, 1940, 5, 153-168.

—A battery of thirty-six tests was given to a group of high-school seniors. The factorial analysis reveals essentially the same primary factors that were found in previous studies. The test battery reveals a simple structure.—(Courtesy *Psychometrika*).

4358. Tucker, L. R. The role of correlated factors in factor analysis. *Psychometrika*, 1940, 5, 141-152.—The fundamental factor theorem is developed in matrix form for the case of correlated factors. The properties of the correlated factor system are discussed, and some effects of sampling error considered. The psychological meaning of correlated factors is discussed, and several mechanisms by which general factors may operate in the factorial system are indicated.—(Courtesy *Psychometrika*).

4359. Tumirz, O. Anthropologische Psychologie. (Anthropological psychology.) Berlin: Junker & Dünhaupt, 1939. Pp. 540. RM. 14.—The error of psychological individualism is pointed out in a discussion of the relationship of the I-world to the Not-I-world, to the primitive drives, to the realm of perceptual reality, and to the realm of values. Every person is racially and sociologically bound, and can function psychologically only within these limitations.—*G. F. J. Lehner* (University of Miami).

4360. Wallon, H. Un psychologue humaniste: Charles Blondel. (A humanistic psychologist: Charles Blondel.) *J. Psychol. norm. path.*, 1939, 36, 1-11.—With the death of Charles Blondel French psychology has lost a cultured and original thinker. He discussed and criticized Gall, Freud, Proust, Comte, Tarde, Durkheim, Lévy-Bruhl, Bergson, Flaubert and Huxley. His main interest, however, was in the field of psychiatric observation.—*R. E. Perl* (New York City).

4361. Wembridge, E. H. R. Let's understand each other. New York: Woman's Press, 1940. Pp. 322. \$2.50.—"In narrative, the author presents different kinds of human beings in many situations, as a basis for psychological analysis of human action."—(Courtesy *Publishers' Weekly*).

4362. Werner, H. Comparative psychology of mental development. (Trans. by E. B. Garside.) New York: Harper, 1940. Pp. 510 + xii. \$4.00.—In this first English edition of an earlier publication in German the author adopts the organic approach and the comparative method in studying the development of mental functions. The text is illuminated by references to the performances of psychotics, primitives, and children. Chapters refer to such topics as "The Syncretic Character of Primitive Organization," "The Diffuse Character of Primitive Action," "Conception," "The Primary Structure of Thought," "The Fundamental Ideas of Magic as an Expression of Primitive Conceptualization," "Primitive Personality," "Syncretic and Diffuse Organization in Imagery."—*P. S. de Q. Cabot* (Simmons).

4363. Wherry, R. J. An approximation method for obtaining a maximized multiple criterion. *Psychometrika*, 1940, 5, 109-115.—A new approximation method for obtaining a maximized multiple cri-

terion, based on the formula of Edgerton and Kolbe is presented. By applications to examples from the literature, the new method is evaluated in comparison with the Horst approximation, a suggested revision of the Horst procedure, and the more exact but more laborious iterative method for the principal axis solution of Hotelling.—(Courtesy *Psychometrika*).

[See also abstracts 4412, 4553, 4708.]

NERVOUS SYSTEM

4364. Berger, H. Über das Elektrenkephalogramm des Menschen. XIV. (The electro-encephalogram of man. XIV.) *Arch. Psychiat. Nervenkr.*, 1938, 108, 407-431.—Using simultaneously a galvanometer and an oscillograph, the author demonstrated the disappearance of alpha waves and the presence of rapid waves of the beta type during the period of unconsciousness following epileptic seizures, and the return of the alpha waves following the regaining of consciousness. The same phenomenon was observed in a schizophrenic patient in the period between two convulsions following intravenous injection of cardiazol.—(Courtesy *Année psychol.*).

4365. Berger, H. Das Elektrenkephalogramm des Menschen. (The electro-encephalogram of man.) *Nova Acta Leop. Carol.*, 1938, 6, 173-309.—A résumé of the author's work in pathological electro-encephalography. He concludes that alpha waves are produced in lower cortical areas and beta waves in superficial areas, while admitting the ubiquity of the former and viewing the latter as the simple expression of the metabolism of neural elements.—(Courtesy *Année psychol.*).

4366. Bremer, F. L'activité électrique de l'écorce cérébrale et le problème physiologique du sommeil. (The electrical activity of the cerebral cortex and the physiological problem of sleep.) *Boll. Soc. ital. Biol. sper.*, 1938, 13, 271-290.—In some instances sleep results from the reduction of sensory stimulation, but in mammals proprioceptive excitation leads to a functional interruption of all afferent pathways and thus to sleep. This genesis and maintenance of sleep depends upon the action of mesencephalic centers. Transection at this level leads to modifications of the electrical activity of the cortex characteristic of sleep, including the responses to auditory and visual stimulations. The writer posits an explanation of sleep in terms of decreased cortical tonus and functional deafferentation following fatigue of the cortical neurones.—(Courtesy *Année psychol.*).

4367. Buchanan, A. R., & Ladd, L. D. The galvanic reaction in guinea pigs: III. The reaction following section of the eighth nerve. *Arch. Otolaryngol.*, Chicago, 1940, 31, 113-119.—The galvanic falling reaction of guinea pigs is still present after unilateral destruction of the seventh and eighth cranial nerves. Cathodal stimulation of the ears seemed to be more effective in the surgically treated than in the normal guinea pigs. The fact that the

galvanic falling reaction persisted after destruction of the eighth nerve indicated that some other mechanism must function in this reaction.—W. J. Brogden (Wisconsin).

4368. Buchanan, A. R. The galvanic falling reaction in guinea pigs: IV. The reaction in animals with unilateral lesions in the brain stem. *Arch. Otolaryngol.*, Chicago, 1940, 31, 120-126.—Electrolytic lesions in the left half of the brain stem increased the number of paradoxical reactions obtained by stimulation of the ears on both the intact and injured sides. When the lesion was extensive the number of paradoxical reactions from the intact side was about twice as great as that from the side of the lesion.—W. J. Brogden (Wisconsin).

4369. Cate, J. ten. Quelques observations sur la locomotion des chiens dont la moelle épinière est sectionnée transversalement. (Observations on the locomotion of dogs with transected spinal cords.) *Arch. néerl. Physiol.*, 1940, 24, 476-485.—Great plasticity in the central nervous system for locomotor adaptations is found in dogs with transverse lesions of the spinal cord. In some cases the posterior parts do not participate actively, but owing to muscular contractions in the fore part of the body the rear is so elevated that dragging is greatly diminished. By a combination of contraction of muscles in the anterior region of the back and lowering of the head the dog can maintain a sort of physical equilibrium over the forelimbs as the fulcrum. If the extensor muscles of the hind limbs are in a medium state of tonic contraction the posterior extremities can participate actively in locomotion. In this case they also support the rear when the dog is standing.—C. P. Stone (Stanford).

4370. Delov, V. E. [The mechanism of inhibition and its ontogenetic maturation.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 25-38.—The ontogenetic development of excitation and inhibition of the nervous system was investigated. The reflex and spontaneous movements of rabbit embryos were not accompanied by oscillatory action currents, being tonic. The fact of lowered functional mobility (lability) of the neuromuscular and reflex apparatus of newborn animals is stated. The reflex inhibition observed in animals during the first postnatal month cannot be obtained in newborn ones.—A. Yarmolenko (Leningrad).

4371. Drohocki, Z. [Electric echo in the cerebral cortex.] *Polsk. Gaz. lek.*, 1938, 17, 12.—Employing successive filters passing frequencies of 3 per second to the same cortical region, one may dissociate the rhythms of the electric waves produced in that area. It then appears that certain rhythms occur periodically in rapid and brief explosions, connected with the rhythmic outlet of electric production in cortical cell groups, which has a constant amplitude and frequency. A differential periodicity occurs during anesthesia, preceding a total suppression or a gradual process of dedifferentiation. If a similar response occurs in the waking state in two regions, this results from a process of electric "echo" caused

by the existence of similar structural units in different areas. These common primitive structural elements remain active during narcosis, while the differentiated functional groups are inhibited.—(Courtesy *Année psychol.*).

4372. Erickson, T. C. Spread of the epileptic discharge: an experimental study of the after-discharge induced by electrical stimulation of the cerebral cortex. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 429-452.—The after-discharge induced by electrical stimulation of the cortex of the monkey is a faithful experimental counterpart of the clinical types of epilepsy. Various motor variants have been observed which appear to be identical in their characteristics with those seen in certain clinical forms of epilepsy. The changes in blood flow in these animals during fits are the same as those seen in man during epileptic seizures. The changes in electrical potential during and after epileptiform fits are the same in monkeys as they are in man during epileptic seizures.—W. J. Brogden (Wisconsin).

4373. Filistovich, V. I. [The development of the general nervous functions in the postnatal period.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 39-48.—The characteristic quality of the reflex apparatus of newborn animals is the ability to react to very different stimuli with the same rhythm of action current. The evolution of the central apparatus in the postnatal period is a gradual differentiation of definite central pathways for localized innervation, characteristic for the complex coordinative activity of the central nervous system of adult animals.—A. Yarmolenko (Leningrad).

4374. Gasser, H. S., & others. Symposium on the synapse. Springfield, Ill.: C. C. Thomas, 1939. Pp. 474. \$2.00; \$1.50.—See XIV: 64, 69, 71.

4375. German, W. J., & Brody, B. S. The external geniculate body: degeneration studies following occipital lobectomy. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 997-1006.—No evidence of secondary degenerative changes could be found in the contralateral geniculate body 10 weeks after subtotal occipital lobectomy, and 15 weeks after perimetric demonstration of macula-sparing hemianopia. Extensive secondary degenerative changes were identified in the homolateral external geniculate body. The absence of secondary degenerative changes in the contralateral external geniculate body suggests that bilateral cortical macular representation does not occur in man unless collateral branching is present in the macular fibers of the optic radiation.—W. J. Brogden (Wisconsin).

4376. Globus, J. H. Probable topographic relations of the sleep-regulating center. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 125-138.—W. J. Brogden (Wisconsin).

4377. Granit, R. [The possibilities of analysis of the processes in the central nervous system.] *Nord. med. Tidskr.*, 1938, 15, 121-127.—A discussion of the results obtained by Sherrington and Adrian in their electrophysiological studies, those relating to the registration of electro-encephalo-

grams, and those resulting from the analysis of simpler structures, such as peripheral neurones, isolated ganglia, and the retina. English summary.—(Courtesy *Année psychol.*).

4378. Grimson, K. S. Role of the sympathetic nervous system in experimental neurogenic hypertension. *Proc. Soc. exp. Biol., N. Y.*, 1940, 44, 219-221.—The present report attempts to determine the blood pressure levels produced by section of the depressor nerves in normal dogs in comparison with pressure levels produced by the same procedure in dogs sympathectomized with the exception of the nerve supply to kidneys and adrenals, and to study the effects of renal denervation, splanchnic resection, and total paravertebral sympathectomy in the former group.—H. Peak (Randolph-Macon).

4379. Hazratian, E. A. [On the principle of relative plasticity of the nervous system.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 172-183.—The data of classical physiology and author's experimental data show that the general physiological effectiveness of plasticity of the central nervous system increases with the evolution of it; in the human central nervous system the plasticity is at its highest level. The role of the cortex in compensation for different defects can change with the patient's age.—A. Yarmolenko (Leningrad).

4380. Hess, W. R. Pupille und Zwischenhirn. (Pupil and midbrain.) *Klin. Mbl. Augenheilk.*, 1939, 103, 407-413.—P. L. Krieger (Leipzig).

4381. Karamjan, A. J. [On the comparative physiology of the plasticity of the nervous system.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 189-192.—After amputation of the extremities in birds and animals it was observed that in the compensatory acts the fundamental role was played by the higher levels of the central nervous system. The adjustive acts are fulfilled through retraining and adaptation.—A. Yarmolenko (Leningrad).

4382. Klüver, H., & Bucy, P. C. Preliminary analysis of functions of the temporal lobes in monkeys. *Arch. Neurol. Psychiat., Chicago*, 1939, 42, 979-1000.—The behavioral effects of bilateral temporal lobectomy were studied in macaques. The monkeys exhibited the following symptoms: (1) forms of behavior indicative of "psychic blindness"; (2) strong oral tendencies in examining available objects; (3) strong tendency to attend and react to every visual stimulus; (4) marked changes in emotional behavior; and (5) an increase in sexual activity. These symptoms also appeared if the olfactory tracts were cut previous to removing both the temporal lobes.—W. J. Brogden (Wisconsin).

4383. Kubo, I., & Odani, S. Corticalization of function and functional localization in the cerebral cortex. In Various, *Collected Papers to Prof. Isakawa*, Kyoto, 1938, 122-133.—While the occipital cortex of the rat is involved in visual discrimination, habits which have disappeared after its total destruction can be relearned at a subcortical level, while the rapidity of relearning after its partial destruction depends on the extent of the occipital area remaining

intact. This suggests a localized facilitating influence on underlying strata which survives the specific integrative function eliminated by the lesion. In addition there is a general facilitating effect involving the entire cortex, as shown after lesions independent of their location. These general and localized effects are equally valid for the human brain, which seems to differ from that of the rat only in quantitative complexity.—(Courtesy *Année psychol.*).

4384. Masserman, J. H., & Jacobson, L. Effects of ethyl alcohol on the cerebral cortex and the hypothalamus of the cat. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 334-340.—By means of modifications of the Horsley-Clarke technique, the effects of intravenous administration of various concentrations of alcohol on the hypothalamus and the cruciate cortex of the cat were studied in 35 animals. The injection of alcohol in strengths of about .02% may have a slightly stimulant effect on both the hypothalamus and the cruciate cortex. Alcohol injected in a concentration greater than .06% is definitely toxic to tissues of the central nervous system. The intravenous administration of absolute alcohol in a dose of from 1 to 3 cc. per kilogram has a depressant effect upon the motor responses of the cortex to electrical stimulation, but in the unanesthetized animal the emotional mimetic reactions of the hypothalamus are unaffected or are actually increased in intensity and duration.—W. J. Brogden (Wisconsin).

4385. Osgood, R., & Robinson, L. J. Cessation of epileptic seizures and the electroencephalogram. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 1007-1008.—Analysis of the electroencephalographic records of 38 institutionalized epileptic patients revealed a lack of correlation between the incidence of abnormal electroencephalograms and the type of epilepsy, the intelligence, the age, or the length of the time during which patients had been free from seizures.—W. J. Brogden (Wisconsin).

4386. Otani, T. Über den Einfluss der erregten Nervenfasern auf die Reizbarkeit der naheliegenden Fasern in demselben Nervenstamme. (The influence of stimulated nerve fibers on adjoining fibers in the same nerve trunk.) In Various, *Collected Papers to Prof. Isakawa*, Kyoto, 1938, 282-297.—The stimulation of nerve fibers has a centripetal effect on adjoining fibers belonging to the same trunk, resulting in a modification of their excitability threshold.—(Courtesy *Année psychol.*).

4387. Pines, L. J. [The ontogenetic trend in brain development.] *Trud. Inst. Isuch. Mosga Bekht.*, 1939, 11, 10-24.—In the study of the laws of the morphogenetic process (interrelations of onto- and phylogenesis) all forms were used, from fish to human brain. The ontogenetic stages of brain development were investigated, as well as neurodynamic interrelations, changes of neuropsychic mechanisms, morphological differentiation, the innervation of the glands of inner secretion, etc.—A. Yarmolenko (Leningrad).

4388. Pines, L. J. [New data on central sections of the vegetative nervous system.] *Trud. Inst.*

Isuch. Mosga Bekht., 1939, 11, 147-161.—A. Yarmolenko (Leningrad).

4389. Posteli, T., & Seidenari, R. [Contribution to the clinical application of electroencephalography.] *Riv. oto-neuro-oftal.*, 1939, 16, 1-14.—Studies of the alpha waves originating in the occipital region were made for 32 normal and 5 pathologic cases. 2 cases had glaucoma and 1 had retinal detachment. Special modifications of the alpha rhythm were shown on the side of the affected eye. Gradual disappearance of electric manifestations was demonstrated in enucleated eyes.—D. J. Shaad (Institute of Ophthalmology, New York City).

4390. Pumphrey, R. J., Schmitt, O. H., & Young, J. Z. Correlation of local excitability with local physiological response in the giant axon of the squid. *J. Physiol.*, 1940, 98, 47-72.—A new technique is described for quick and accurate determination of nerve excitability. This consists of two short shocks of separately adjustable strengths and polarities, both shocks being synchronized with the cathode-ray time base at any desired time interval. In single fibers, the variations of excitability resulting from conditioning the fiber with various subthreshold strengths of cathodal and anodal stimuli were correlated with the variations of local action potential occasioned by the conditioning stimuli. Stimuli of less than half threshold strength are associated with exponentially decreasing local potentials and exponentially decreasing extra excitability of similar time course and proportional magnitude. Near-threshold stimuli cause disproportionately prolonged local action potentials and correspondingly prolonged extra excitability. The general conclusion is that excitation results from electrical summation of local action currents and the applied stimulus, i.e., from the spread of current produced by local physiological activity. There is a refractory period of local response, its results depending on the safety ratio of the fiber.—M. E. Morse (Baltimore).

4391. Régner, J., & Quevauviller, A. Quantitative Studie der Wirkung der Lokalanästhetica auf den isolierten Nerven durch die Messung der Chronaxie (L. Lapique). *Energetische Formel der Erregbarkeit* (H. Lassalle und L. Lapique), unter Berücksichtigung der Veränderungen der elektrischen Resistenz der Nerven. (Quantitative study of the effect of local anesthetics on isolated nerves in the measurement of chronaxy of Lapique. Energy formula for excitability of Lassalle and Lapique, with particular reference to the electrical resistance of nerve.) *Arch. exp. Path. Pharmacol.*, 1939, 193, 48-78.—(*Biol. Abstr.* XIII: 16701).

4392. Riese, W. Contributions à l'étude des lois de l'évolution du cerveau humain. (Contributions to the study of the laws of evolution of the human brain.) *Schweiz. Arch. Neurol. Psychiat.*, 1938, 42, 187-197.—Although in general a parallelism has been accepted between embryogenic and phylogenetic evolution, the cerebral cortex appears quite suddenly and early in the developmental process. It is probable that this very complex organ requires the full embryonic period for its development. The growth

of the brain is not continuous in all its parts, and during a relatively inactive period in the development of the hemispheres there is a period of rapid development of the cerebral trunk. Also, there is a disproportionate evolution of brain regions which later become coordinated.—(Courtesy *Année psychol.*).

4393. Rohracher, H. *Experimentelle und theoretische Untersuchungen über die gehirnelektrischen Vorgänge.* (Experimental and theoretical studies of electric cerebral processes.) *Comment. pontif. Acad. Sci.*, 1938, 2, 225-273.—Alpha waves, which may originate in subcortical centers and even in extra-cerebral areas, are caused by a general synchronism of the oscillations of numerous cells, representing a simple nutritive phenomenon and a metabolic process.—(Courtesy *Année psychol.*).

4394. Schmitt, F. O., & Schmitt, O. H. *Partial excitation and variable conduction in the squid giant axon.* *J. Physiol.*, 1940, 98, 26-46.—The action potentials from giant axons of the squid are very suitable for single-fiber experiments. Partial excitation is demonstrated: by decremental rather than electrotonic decrease of potential beyond a partial block just sufficient to stop propagation; by incremental and decremental conduction in the vicinity of an electrode; and by non-linear responses from a nerve much too depressed to conduct. Temporal and spatial distributions of potential with intensity of shock as a parameter and transverse stimulation were demonstrated. No change in birefringence was detected in the axis cylinder either in the initial fast phase of the potential response or in the slow recovery phases. The evidence suggests that the local response, even of small elements of nerve, is graded rather than all-or-none. Two units of local activity, termed "safety ratio" and "propagation ratio" are defined. These are useful for quantitative description of the activity of a nerve element irrespective of the theory of conduction held.—*M. E. Morse* (Baltimore).

4395. Schwartz, H. G., & Kerr, A. S. *Electrical activity of the exposed human brain: description of technic and report of observations.* *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 547-559.—*W. J. Brogden* (Wisconsin).

4396. Shanes, A. M. *Effect of electrotonus on accommodation in nerve.* *Proc. Soc. exp. Biol., N. Y.*, 1940, 44, 93-95.—A report of an investigation of the time constant λ , one of the factors in the rate of change of threshold in excitable tissues called "accommodation." Using exponentially rising currents, λ of frog sciatic was determined and found to be increased by anelectrotonus and decreased by catelectrotonus. It was also found to have a functional relation to electrotonic intensity similar to that of the rheobase. This is contrary to the behavior to be expected if alterations in k and λ alone govern the behavior of nerve.—*H. Peak* (Randolph-Macon).

4397. Vassiliev, S. S. *[Phenomena of adaptation and sensitization in different types of nerve*

alteration.] Trud. Inst. Izuch. Mozga Bekht., 1939, 11, 162-169.—*A. Yarmolenko* (Leningrad).

4398. Vul, J. M. *[Further investigations of functional peculiarities of the nervous system in ontogenesis.] Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 49-56.—In the evolution of activity of the central nervous system as well as in the neuromuscular periphery there is observed the same regularity—from tonic effects with low lability to tetanic ones with high lability. The general lability of the central nervous system is low in the early stages of individual evolution and increases with age.—*A. Yarmolenko* (Leningrad).

4399. Vvedenskaya, J. V., Barsegian, K. O., Hanutina, D. I., Pressman, J. M., Schilov, F. M., & Hazratian, E. A. *[New data on the physiology of the centers of the autonomic nervous system.] Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 202-205.—*A. Yarmolenko* (Leningrad).

4400. Windle, W. F., & Becker, R. F. *Relation of anoxemia to early activity in the fetal nervous system.* *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 90-101.—In deficiency in oxygenation or elevation of carbon dioxide, cat fetuses at first became more irritable to light tactile or pressure stimuli, and the individuality of the responses was clearly defined. With further anoxemia, the individual movements became depressed, some, especially movements of appendicular muscles, being lost entirely; irritability decreased and spontaneous movements of a fully integrated mass action resulted. The greater the asphyxia the more tonic and sustained were these mass responses. Severe asphyxia, however, ultimately led to the breakdown of total responses and to depression of all activity. It is concluded that behavior develops by a process of integration of unit reflexes, which occurs with progressive growth of connections within the central nervous system. Experimental procedures usually disturb respiratory metabolic conditions so quickly that the individual movements are destroyed before adequate stimuli can be brought into play to elicit them, the mass action, i.e., Coghill's total pattern, being the only form of behavior remaining during partial anoxemia.—*W. J. Brogden* (Wisconsin).

[See also abstracts 4340, 4355, 4403, 4456, 4463, 4491, 4505, 4513, 4516, 4537, 4542, 4551, 4617, 4625, 4641.]

RECEPTIVE AND PERCEPTUAL PROCESSES

4401. Andreev, A. M., Arapova, A. A., & Gersuni, G. V. *On the cochlear potentials in man.* *Bull. Biol. Méd. exp. U. R. S. S.*, 1938, 6, 495-496.—20 human subjects, lacking the tympanic membrane, were used in this experiment, in which an electrode was placed directly on the round window. The cochlear potentials so recorded were very weak; with the maximum stimulation they did not exceed 26 microvolts for low tones (200 cycles) and 8 microvolts for tones between 500 and 2500 cycles. (Under similar conditions in animals the potentials reach 1

millivolt.) As in lower animals, the potentials reproduced exactly the frequency of stimulation. The variation of amplitude with intensity had the same form as that obtained by Davis in the cat.—(Courtesy *Année psychol.*)

4402. Arapova, A., & Gersuni, G. [On the frequency of alternating current and the pitch of the tone during electrical stimulation on the auditory apparatus.] *Tech. Physics U. R. S. S.*, 1938, 5, 447-462.—For relatively low tones, the pitch of the tone produced by electrical stimulation is perceived as 1 octave higher than that following mechanical vibrations of the same frequency. Beats can be produced only if the frequency of the mechanical vibrations is (approximately) double that of the alternating current. For tones of a certain critical frequency (800-2000 cycles, varying with the subject) the beats can be obtained when the mechanical vibrations are of either the same or double the frequency of the electrical alternations. Above the critical zone beats are produced only by (nearly) identical frequencies from the 2 sources; the tone caused by the current no longer seems to be an octave higher. It is suggested that there exists a cochlear electrostatic system (between liquid and membranes); the relationships among the variables are represented in equation form.—(Courtesy *Année psychol.*)

4403. Bartley, S. H., & Bishop, G. Optic nerve response to retinal stimulation in the rabbit. *Proc. Soc. exp. Biol., N. Y.*, 1940, 44, 39-41.—Retinal potentials were recorded from electrodes on the optic nerve and corresponding retina of rabbits. Changes in the "on" and "off" nerve discharges are reported as functions of increasing duration and intensity of the stimulus. It is inferred from the records that retinal activity arises in elements distal to the ganglion cell layer and probably in the sense cells; and that the total *b* wave represents the summation of impulses which are individually briefer.—*H. Peak* (Randolph-Macon).

4404. Bender, M. B., & Kanzer, M. G. Dynamics of homonymous hemianopias and preservation of central vision. *Brain*, 1939, 62, 404-421.—Observations on cases of progressive hemianopia associated with tumors of the brain indicate that there is a concomitant relationship between visual acuity, color vision, and peripheral defects in the visual field. So-called "macula sparing" in cases of homonymous hemianopia is found to be a stage in the development of a complete hemianopia, the defects beginning in the periphery of the visual field and gradually spreading to the center. Careful examination of the preserved field of vision will often disclose diminished visual acuity and impairment of color vision, indicating an early disturbance in the function of the visual pathways. These findings suggest a functional integrity of the optic radiation.—*W. J. Brogden* (Wisconsin).

4405. Berens, C. A test for binocular vision. *Amer. J. Ophthalm.*, 1940, 23, 687-689.—Using larger test objects to facilitate testing binocular vision in

the presence of amblyopia, which is frequent in strabismus, a modification of the Worth four-dot test is presented in which simple characters, easily recognized by young children, replace the dots.—*D. J. Shaad* (Institute of Ophthalmology, New York City).

4406. Burke, J. W. Field changes after satisfactory filtration operations for glaucoma. *Amer. J. Ophthalm.*, 1940, 23, 657-662.—A study of 48 eyes, followed for five years or more after filtration operations for glaucoma, revealed that in spite of controlled intraocular pressure, further changes in visual fields occurred in about 50% of the cases. There is a gradual further loss of field, the defect being of the same type as that observed before surgical treatment. The best retention of fields is found in cases in which few defects were present before operation.—*D. J. Shaad* (Institute of Ophthalmology, New York City).

4407. Compansky, B. N. [Auto-induction in the full light-stream.] [*Sci. Mem. pedag. Inst. Herzen*], 1939, 18, 107-114.—The experimental investigation of a full light-stream gives a new law, which can be generalized by the following formula, which is given hypothetically: When a surface is illuminated by a light-stream, the eye perceives: the reflected light-stream (*b*) + the color contrasting with the full light-stream (*K*) + the color contrasting with the reflected light-stream (*k*): E (the full perception) = $b + K + k$. By the law of auto-induction of light it follows that the color of the simultaneous contrast is: $K_s = K + k$.—*A. Yarmolenko* (Leningrad).

4408. Compansky, B. N. [The change of colors perceived on white and black backgrounds at small visual angles.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 72-76.—*A. Yarmolenko* (Leningrad).

4409. Crozier, W. J., & Wolf, E. The flicker-response contour for the crawfish: II. Retinal pigment and the theory of asymmetry of the curve. *Biol. Bull. Woods Hole*, 1939, 77, 126-134.—Injection of *Cambarus bartoni* with extract of eye-stalks of this species forces migration of retinal pigments of individuals kept in darkness into positions characteristic of the light-adapted eye. In this condition the receptor elements of each ommatidium are effectively shielded from light passing through their neighbors. The flicker-response contour then differs in four particulars from that found when the retinal pigment is in the dark position, for which effective screening of the ommatidia is not present: (1) the maximum flicker is lowered; (2) the whole curve is moved to the higher intensities; (3) the spread of log *I* thresholds for the cumulative population of sensory effects is lessened; (4) the asymmetry of the *F*-log *I* curve is markedly reduced. It is pointed out that these results are to be expected if the asymmetry of the curve in normal dark adaptation is due to the relation between flash intensity and the curvature of the optic surface and divergence of the ommatidial axes.—*W. J. Brogden* (Wisconsin).

4410. Dobriakova, O. Studies on electric sensitivity of the visual and taste receptors. *Bull. Biol. Méd. exp. U. R. S. S.*, 1938, 6, 343-345.—In this experiment there was simultaneous determination of the thresholds to a galvanic current with electrodes on the eyelid and the tip of the tongue (sensations of brightness and acid taste). 30 minutes after the original determinations an intense visual stimulation period (10 minutes) or a gustatory period (5 minutes) was given. Thresholds to the electrical stimulation were found to have changed equally for the two categories of receptors; the light period increased the sensitivities, while the taste stimulation decreased the sensitivities. The presentation of such words as "light" and "bright sun" had an effect analogous to the visual stimulation, while "acid," "sweet," etc., led to a change similar to that effected by the gustatory stimulation.—(Courtesy *Année psychol.*).

4411. Dourgnon, J. Quelques remarques sur la photométrie visuelle et la colorimétrie. (Some comments on visual photometry and colorimetry.) *Bull. Soc. franç. Elect.*, 1938, 8, No. 94. Pp. 12.—The writer clarifies the concept of luminous flux, which is considered according to the principle of integral summation of heterogeneous irradiations. As for the trichromatic representation of the radiations, the choice of the system of reference permits agreement with the visibility curve. If an individual is found in whom there is entirely absent one or the other of the supposed constituents, there can be obtained a mode of reference corresponding to reality. Lacking this, it is necessary to accept an arbitrary mode which is at the same time practical and clearly defined. Although the colorimetric system escapes this system of reference, characterizing a radiation in terms of its luminous flux, it is affirmed that this method is scarcely less arbitrary than the trichromatic system.—(Courtesy *Année psychol.*).

4412. Durup, G., & Fessard, A. Revue critique des seuils différentiels "successifs" et présentation d'un appareil à plage unique. (A critical examination of "successive" differential thresholds and an introduction to an apparatus with a single surface.) *Année psychol.*, 1940, 39, 227-251.—The objections to simultaneous presentation of two surfaces in order to judge relative brightness have been pointed out by many authors. The alternative is successive presentation of intensities, which may be instantaneous (less than 0.1 second interval), progressive (through intermediate stages), or discontinuous. McDougall used discontinuous presentation, the chief disadvantage of which is that the subject must compare a visual image with the memory image of a preceding stimulus. Progressive intensity changes cause an awareness that a change has occurred before the subject can perceive actual intensity variations. Instantaneous modification appears most desirable, but presents technical difficulties which the authors have attempted to solve by constructing a new apparatus. The intensity of its single surface can be regulated in size and duration, while diaphragms and a movable red dot permit

definite localization of retinal stimulation.—H. Beaumont (Kentucky).

4413. Elsberg, C. A. Cerebral activity including conscious sensation as a physicochemical process with evidence to indicate that many vital processes can be expressed in simple mathematical relationship. *Trans. Amer. neurol. Ass.*, 1938, 36-67.—A summary of Elsberg's data, especially pertaining to refractory periods in vision and olfaction in relation to the intensity and duration of the stimulus, leading to a mathematical relation applicable to many physico-chemical processes. Numerous examples of similar numerical relations obtained by other investigators are cited.—H. Beaumont (Kentucky).

4414. Essen, J. van. Das Wesen des Dunkels. Zugleich eine Antwort auf die Bemerkungen des Herrn Prof. Dr. J. Ohm zu meiner Theorie des photischen Dunkels. (The nature of darkness. With a reply to the comments of Ohm on my theory of photic darkness.) *v. Graefes Arch. Ophthalm.*, 1938, 139, 817-838.—The writer clarifies his theoretical position. He is led to distinguish, under the term "Finsternis," a photic darkness so weak that subjects call it aphotic.—(Courtesy *Année psychol.*).

4415. Forsythe, W. E., Barnes, B. T., & Shrider, A. L. Photometry of colored light sources. *J. opt. Soc.*, 1938, 28, 241-248.—The increasing use of fluorescent lamps raises again the old problems of heterochromic photometry. The two methods are compared (17 subjects): flicker with a 2° field and a surround of equal brightness; and direct comparison with a field of 10°, with colored filters canceling the difference in chroma. (The transmission of the filters was calculated on the basis of the classic factors of visibility.) The close agreement of the two procedures confirms the practical value of the standard visibility curve, contrary to the recent German assertions.—F. W. Finger (Brown).

4416. French, R. L. A method and apparatus for demonstrating olfactory sensitivity in the rat. *J. comp. Psychol.*, 1940, 29, 307-313.—This apparatus requires that the animal run up a tunnel, which may be turned so that the entrance is in any direction, to the center of a cage the floor of which has small holes leading into food boxes. The holes are just large enough for insertion of the rat's arm. They are arrayed in a circle around the outer edge of the cage floor. An odor associated with certain holes and the contained food, but not with others is used to test for olfactory sensitivity. Discrimination habits are formed in from 7 to 17 trials. Sensitivity and equivalence of response to a wide variety of odors is demonstrable in this apparatus.—N. L. Munn (Vanderbilt).

4417. Gersuni, G. Analyse der Einwirkung von Wechselströmen auf den Gehörapparat. (Analysis of the action of alternating current on the auditory apparatus.) *Tech. Physics U. R. S. S.*, 1937, 4.—This is a general résumé of data concerning the excitation of the human auditory apparatus by alternating electric currents.—(Courtesy *Année psychol.*).

4418. Goldstein, M. A. Defective speech in relation to defective hearing. *Arch. Otolaryngol., Chicago*, 1940, 31, 38-44.—W. J. Brogden (Wisconsin).

4419. Goosen, W. J. Phototropism of the honey bee (*Apis mellifica*). *Arch. néerl. Physiol.*, 1940, 24, 414-425.—A simple apparatus for control of the illumination of a glass container in which a bee can move about freely is described. Half of one side is made relatively dark and the other relatively light. 12 variations in illumination are provided. Testing one bee at a time for 20 minutes, the observer charts the position of the bee at each beat of a metronome (40 per minute) and then counts the number of times it was charted in the relatively dark and light areas. The results show that the bee has a strong predilection for the more illuminated areas and that this increases as the contrast between the opposed illuminations becomes greater. Although no marked difference is found between bees that are entering the hive and those leaving it, those which have been kept in a dark place for a long time (72 hours) show a marked increase in movements to the brighter area over bees which have been kept in a brilliantly lighted place for the same period of time.—C. P. Stone (Stanford).

4420. Hecht, S. The photochemical basis of vision. *J. appl. Phys.*, 1938, 9, 156-164. The nature of the visual process. In *Harvey Lectures*. Baltimore: Wm. Wood, 1938. Pp. 35-64.—These articles integrate some recent findings into the writer's schematic systematization of the visual process.—F. W. Finger (Brown).

4421. Hughes, J. W. A new method for determining the uni-aural differential threshold. *Phil. Mag.*, 1938, 26, 635-650.—To a continuous tone of given frequency is added intermittently a second tone of the same frequency, in phase with the first. For a certain intensity of the first tone the minimum perceptible increment is determined. Three procedures are described for accomplishing this, one using 2 receivers at some distance from the ear and the others using a single receiver coupled to independent circuits. Similar data are obtained by the 3 methods for 3 frequencies (800, 1000, and 12,000 cycles) and 9 levels of intensity (10-50 db above threshold). The differential sensitivity corresponds to the addition of 0.28 to 0.68 db, with no systematic variation with intensity or frequency.—F. W. Finger (Brown).

4422. Jahn, T. L., & Crescitelli, F. Diurnal changes in the electrical response of the compound eye. *Biol. Bull. Woods Hole*, 1940, 78, 42-52.—A diurnal rhythm occurs in the electrical responses obtained from the compound eyes of certain beetles. When one of these beetles is kept in total darkness and under approximately constant experimental conditions, the electrical response to a brief exposure of light which is recorded during morning and afternoon hours (day-type) is markedly different from the response obtained during the late afternoon and evening hours (night-type). The possibility is suggested that the diurnal cycle in the electrical

response may be related to a diurnal migration of the eye pigments.—W. J. Brogden (Wisconsin).

4423. Klingebeitl, K. H. Über die Lichtreaktionen von Augenmutationsrassen der Mehlmotte *Ephestia kühniella* Zeller. (Light reactions of meal moths of different eye-mutation races.) *Biol. Zbl.*, 1938, 58, 631-646.—Under conditions of horizontal illumination, the orientation reaction of moths with black, red, and transparent eyes is the same; but the black-eyed species has less negative phototropism when the light comes from above. Individual differences are greater in this species, and in some cases positive phototropism is found. The clear-eyed species has better orientation, and it appears that sensitivity to light increases in proportion to the reduction of pigmentation in the moth's eye.—(Courtesy *Année psychol.*).

4424. Kobrak, H. G., Lindsay, J. R., & Perlman, H. B. The next step in auditory research. *Arch. Otolaryngol., Chicago*, 1940, 31, 467-477.—W. J. Brogden (Wisconsin).

4425. Kravkov, S. F. The influence of odors upon color-vision. *Acta ophthalm., Kbh.*, 1939, 17, 425-441.—"Olfactory stimuli may noticeably influence our color-vision. This influence is of different character, depending upon the nature of the color-sensitive apparatus whose reactions we observe. Thus the intensity of the green-sensitive apparatus of our eye is heightened under the influence of the smells of Bergamoth oil, camphor, and geraneol (of a medium intensity) whereas the intensity of the red-sensitive apparatus is diminished. The action of the odors tested by us is thus almost identical to that produced by indirect sound stimuli upon color vision. The smell of indol in our experiment did not reveal any influence upon the color vision at all. The influence of the olfactory stimuli causes visual reactions only in respect to those rays of the spectrum which, according to the three-component theory of color vision, excite the green-sensitive apparatus of the eye. The olfactory stimulation affects not only the sensitivity (excitability) of our visual receptor but also its excitation."—P. L. Krieger (Leipzig).

4426. Kyrieleis, W. Untersuchungen über den Ablauf der Dunkelanpassung mit einem neuen Verfahren automatischer Schwellenwertauszeichnung. (Investigations of the course of dark adaptation, with a new method of registering automatically the threshold values.) *v. Graefes Arch. Ophthalm.*, 1938, 138, 564-597.—In the adaptometer used in this study the screw regulating the stimulus brightness was equipped with a pen, so that the curve of adaptation was inscribed on the cylinder. The rod-cone break appeared quite clearly. The curves of 8 subjects, differing considerably during the first 5 minutes, approached similar values after 17 minutes. There were no systematic differences between repeat tests, nor were the curves of identical twins dissimilar. With increasingly long pre-adaptation (to a light of constant brightness) the appearance of the rod-cone break was retarded progressively.

After 25 minutes all curves became very similar. Monocular curves are given, with pre-adaptation of either or both eyes. Finally, there is a comparison of the course of adaptation of the two halves of the retina when only one half has been previously light-adapted.—(Courtesy *Année psychol.*)

4427. Lachèze-Rey, P. Utilisation possible du schématisme kantien pour une théorie de la perception. (Possible utilization of a Kantian system for a theory of perception.) *J. Psychol. norm. path.*, 1939, 36, 11-21.—We can easily explain the adaptation of a human being to his surroundings, but we cannot explain perception by adaptation or by association. Perception is part of consciousness. The answer is given by Kant's theory, reduced to two formulae: (1) the consciousness of the connected presumes the previous consciousness of the operation of connection; and (2) one never finds in an object anything but what one introduces into it. The question of the relation and position of the perceiving person to the perceived object is answered by the Kantian theory of time and space. The "me" and the "outside of me" are two correlative intentions which alone can give to space the significance of otherness. Most local-sign theories of space perception are inadmissible in that they require the spirit to interpret the sign which it has not yet established as such; but in Kantian theory the sensation which must serve as a sign has accompanied an active operation and receives its meaning from the spirit itself.—R. E. Perl (New York City).

4428. Lempert, J. Endaural fenestration of external semicircular canal for restoration of hearing in cases of otosclerosis. *Arch. Otolaryngol., Chicago*, 1940, 31, 711-779.—W. J. Brogden (Wisconsin).

4429. Lisi, F. Il prurito. Studio psicofisiologico della sua genesi periferica. (Itching. Psychophysiological study of its peripheral origin.) *Riv. Biol.*, 1938, 25, 47-117.—Itching was induced in 50 subjects by the use of powders applied to different parts of the body, with recording of latency, duration, intensity, and course of development. The latency was greatest on the forearm, shortest on the thigh; the duration was greatest on the leg, least on the chin. The latency varied little with age (5 to 80 years), the intensity decreased, the duration increased slightly. No sex differences appeared in latency or in intensity, but the duration was shorter in the female subjects. The investigator believes that there must be a certain modification of the superficial vessels of the skin leading to the excitation of the cutaneous nerve endings in the vascular walls. It may be that the specific mechanism of the itching includes the release of a specific itching substance from the vessels or the epidermal cells, which in turn irritates the nervous elements of the vascular walls.—(Courtesy *Année psychol.*)

4430. Luckiesh, M., & Moss, F. K. Thresholds and supra-thresholds of seeing. *Trans. Illum. Engng. Soc. N. Y.*, 1938, 33, 786-813.—The investigators ascertained, for various visual tasks, 6 levels of illumination: 2 absolute thresholds (50% and

100% of correct judgment), 2 thresholds of detail discrimination, and 2 "supra-thresholds" or optima for comfort and efficiency. A practical discussion of favorable and unfavorable factors is given, with consideration of a compromise between maximum efficiency and cost of illumination.—F. W. Finger (Brown).

4431. Luckiesh, M., & Taylor, A. H. Tungsten, mercury and sodium illuminants at low brightness levels. *J. opt. Soc.*, 1938, 28, 237-240.—Investigations of the Purkinje effect from the point of view of illumination. By comparison with an incandescent lamp, this effect is small for the mercury arc, and considerable for sodium lamps. Thus, at brightnesses 3.4, 0.34, 0.034, 0.0034, and 0.0017 b/m², the efficiency of a sodium lamp is respectively 50, 41, 29, 15 and 13 lumens per watt, while that of the incandescent lamp which is compared to it photometrically remains constant (20 lumens/watt) by definition. At the lowest level the 7 subjects in the research still perceived clearly the difference in color. The diameter of the field was 10°, the surround dim. For 5° and 2° the Purkinje effect is diminished. It decreased also when a brilliant light source prevented adaptation to the level considered. The investigators also measured the differential threshold (of a stimulus); this value doubles when the energy is reduced 75% in each type of lamp.—F. W. Finger (Brown).

4432. MacAdam, D. L. Photometric relationships between complementary colors. *J. opt. Soc.*, 1938, 28, 103-111.—Starting from the classic colorimetric system of the International Commission on Illumination, the writer has calculated numerous formulae, tables, and diagrams by means of which practical problems of complementary pairs can be solved. There are discussions of the colors making for maximum visual efficiency and the colors whose spectrophotometric curves are linear functions of wave length.—F. W. Finger (Brown).

4433. McFarland, R. A., & Halperin, M. H. The relation between foveal visual acuity and illumination under reduced oxygen tension. *J. gen. Physiol.*, 1940, 23, 613-630.—The foveal visual acuity of 11 subjects was studied under normal atmospheric conditions and at simulated altitudes of 10,000 ft. (14.3% O₂) and 18,000 ft. (10.3% O₂). A mask was used to administer the desired mixtures of oxygen and nitrogen. A red filter was used so as to study only the behavior of the cones. The logarithm of illumination was plotted horizontally and that of visual acuity vertically. The reduced oxygen tensions resulted in a shift of the curve to the right along the intensity axis. These effects were counteracted within a few minutes by inhaling oxygen. The shift resulted in a relatively large decrease of visual acuity at low illuminations. At increasing light intensities, anoxia produced less and less change, until at very high illuminations the decrease was negligible. A possible practical conclusion is that, as far as foveal visual acuity is concerned, it is much more important that airplane pilots use oxygen during night than during day flights.—M. E. Morse (Baltimore).

4434. Metcalfe, E. E. A new method for determining night blindness. *Nav. med. Bull., Wash.*, 1940, 38, 231-239.—This article presents a new method of testing for night blindness based upon measures of light and dark adaptation. The test involves primarily the time required for recovery of normal green vision after exposure of the eye to intense white light. Results from 75 cases are presented, and values "which may be considered normal for different age groups" are given. The advantages of the test and the physiological principles involved are discussed briefly.—G. R. Thornton (Purdue).

4435. Mettler, F. A. The present status of auditory research: an anatomo-physiologic viewpoint. *J. gen. Psychol.*, 1940, 22, 387-412.—This review of the literature indicates that there is a neurologic spatial arrangement of the auditory system comparable to that of the visual system, that sounds may be appreciated by subcortical levels alone, and that behavior modifications can occur to sounds appreciated at these levels. Crossed and uncrossed pathways have equal functional values; there is anatomical differentiation comparable to the physiological division of the temporal cortex into auditory receptive and psychic areas. "The evidence tends to vitiate any theory of audition which relies entirely upon the central neural analysis of sound into its component frequencies. The further interpretation indicates that the conduction of sound within the central auditory pathways is in the form of already resolved elements." 78 references.—C. N. Cofer (Brown).

4436. Minnich, D. E. The light response of the marine tubificid worm, *Clitellio arenarius* (O. F. Müller). *J. exp. Zool.*, 1939, 82, 397-417.—*Clitellio arenarius* is a small marine worm living in sand under stones between tide levels. Increases of illumination lead to a coiling of the posterior two thirds of the body. Prolonged exposure to intense illumination is injurious or even fatal to *Clitellio*. The reaction time of the worm to light decreases with increased intensity through a wide range of intensities. There is a short sensitization period which requires light and a latent period which does not. The course of dark adaptation in this worm is described by the equation of a bimolecular chemical reaction. The temperature coefficient is that of a chemical reaction. Thus dark adaptation seems to be controlled by a chemical process.—L. Carmichael (Tufts).

4437. Nelson, J. H. Anomalous trichromatism and its relation to normal trichromatism. *Proc. R. phys. Soc. Lond.*, 1938, 50, 661-702.—The color vision of six deuteranopes (so designated by Rayleigh's equation) and one protanope was studied exhaustively, with a determination of the spectral coefficients for the trichromatic equalizations, and an examination of the differential sensitivity between the complementaries, and the number of gradations of saturation of the various hues. The abnormal trichromats had a low degree of differential sensitivity

to spectral shifts, particularly at the red end, and a much smaller number of degrees of saturation in the green and in the red.—F. W. Finger (Brown).

4438. Nony, C., & Piéron, H. Contribution à la différenciation des processus rétiens et corticaux dans la vision binoculaire. (A contribution to the differentiation of retinal and cortical processes in binocular vision.) *Année psychol.*, 1940, 39, 218-226.—Evidence is presented to show that stimuli applied to corresponding points on the two retinas are projected independently at the cortical level without fusion of afferent impulses. First, in stereoscopic observation of a rotating disk containing an inner circle and an outer ring of two black and two white segments each, the flicker phenomenon remained the same whether white for one eye was synchronized with black for the other, or white corresponded to white. Obviously, if a single cortical projection were made the flicker could not occur, since white would fuse with black. Secondly, it was found that simultaneous contrast does not transfer from one eye to the other, as would be the case if the images were fused, but occurs only at the level of the retinal receptors. This was shown by stereoscopic observation of rectangles containing complementary and non-complementary colors, and of a modification of Sherrington's rotating disk containing a gray band on an inner circle with red and violet segments, visible to the right eye, and a half-yellow, half-green band on a gray outer ring, visible to the left eye. Rotation frequencies at which the superposition phenomenon occurred were the same regardless of synchronization.—H. Beaumont (Kentucky).

4439. Ohm, J. Was ist Dunkel? Bemerkungen zu dem Aufsatz des Herrn Dr. Jac. van Essen, Paris. Begriff und Bedeutung des photischen Dunkels. (What is darkness? Comments on the article of Dr. van Essen, Paris. Concept and significance of photic darkness.) *v. Graefes Arch. Ophthalm.*, 1938, 139, 811-816.—It is suggested that the consideration of darkness should include the problem of nystagmus. The writer discusses the relation to his own theory of a superior oculo-motor center.—(Courtesy *Année psychol.*).

4440. Osipova, V. N. [On the investigation of visual constancy.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 77-89.—The interrelations are studied of the illuminated object and the light source in: (1) different variations of illumination on a constant object; (2) variations of reflectivity of the object in constant illumination. Our knowledge of the color of an object corrects the variability of the phenomenon of constancy, and establishes the influence of variability on the "crisis of constancy."—A. Yarmolenko (Leningrad).

4441. Pies, R., & Wendt, H. Die Dunkeladaptation bei gesunden, richtig ernährten Menschen. (Dark adaptation in healthy, properly nourished people.) *Klin. Wschr.*, 1940, 19, 419-420.—By means of the Engelking-Hartung adaptometer, the limits between normal and pathological values in

relation to vitamin-A deficiency may be precisely determined.—P. L. Krieger (Leipzig).

4442. Rau, P. Auditory perception in insects, with special reference to the cockroach. *Quart. Rev. Biol.*, 1940, 15, 121-155.—Evidence is reviewed on the perception of sound rather than on the structure of sound receptors or stridulating organs. The following insects are considered: ants, bees, wasps, termites, beetles, bugs, book lice, flies, cicadas, moths and butterflies, caterpillars, locusts, katydids, crickets, and cockroaches. Experiments are described on several species of the last and on the different developmental stages. The author believes that his experiments prove that *Blatta orientalis* does perceive sounds. Nymphs were more sensitive than adults. The survey, the explanation of technical difficulties in reported negative experiments, and his experiments convince the author that insects do perceive sound.—O. W. Richards (Spencer Lens Company).

4443. Reed, M. R. The olfactory reactions of *Drosophila melanogaster* Meijen to the products of fermenting banana. *Physiol. Zool.*, 1938, 11, 317-325.—During 12 hours, 90% of the fruit flies belonging to a large colony were captured by the use of a trap containing a fermenting banana. Females were attracted by stronger solutions of the acids and alcohol which are fermentation products of the banana than were the males.—(Courtesy *Année psychol.*).

4444. Renqvist-Reenpää, Y. Über die sinnesphysiologische Einfach- und Doppelobservation sowie über deren Genauigkeit. (Concerning the precision of the simple and the double observation in sensory physiology.) *Skand. Arch. Physiol.*, 1938, 80, 346-360.—This is a purely abstract logico-mathematical discussion, leading to a sort of principle of indeterminacy for the observation of objects, and more precisely for the determination of differential thresholds.—(Courtesy *Année psychol.*).

4445. Roaf, H. E. The recognition of color. *Trans. ophthal. Soc. U. K.*, 1939, 59, 395.—Photochemical disturbances or defects in the layers of the retina may account for defective differentiation between "red" and "green." Colorless stimuli produce composite effects. Long wave lengths raise the threshold to all lights, while shorter wave lengths influence the threshold for their own radiations.—D. J. Shaad (Institute of Ophthalmology, New York City).

4446. Ronchi, V. Sulle analogie funzionali tra retina e emulsioni sensibili. (The functional analogies between the retina and sensitive emulsions.) *Ottica*, 1937, 15. Pp. 15.—The single receptor unit is compared to the grain of reduced silver in the photographic emulsion. Curves of acuity as a function of brightness are shown to resemble curves of development time as a function of exposure. Processes in the development of emulsions are analogous to the process of visual fatigue.—(Courtesy *Année psychol.*).

4447. Samurova, N. N. [An experimental device for investigating phenomena of visual con-

stancy.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 90-93.—A. Yarmolenko (Leningrad).

4448. Seashore, C. E. The psychology of music. XXVI. Acquired pitch vs. absolute pitch. *Music Educators J.*, 1940, 26, No. 6, 18.—A plea to distinguish more carefully between absolute and acquired pitch. There are said to be three fundamental distinctions between the two: the former is inborn, is extraordinarily fine, and very rare. The "lines of demarcation between absolute and acquired pitch are not rigid or without exceptions."—P. R. Farnsworth (Stanford).

4449. Shklovski, M. L. [The questions of tactile-vibratory sense in children with disorders of hearing and vision.] *Vop. surdopedag.*, 1940, 5-37.—The results were correlated with the degree of the loss of hearing or vision, and with the time of this loss.—A. Yarmolenko (Leningrad).

4450. Silberstein, L. Investigations on the intrinsic properties of the color domain. *J. opt. Soc.*, 1938, 28, 63-85.—The totality of visual sensations constitutes from the mathematical point of view a multiplicity in three dimensions, at least for the normal subject. It is true, however, that not all phenomena of color vision can be represented without distortion in terms of Euclidian space. The work of Schrodinger on the problem of differential geometry of colors is discussed critically.—F. W. Finger (Brown).

4451. Sinden, R. H. A further search for the ideal color system. II. A reconsideration of the Helmholtz line element. *J. opt. Soc.*, 1938, 28, 339-347.—Helmholtz demonstrated that all properties of color vision can be calculated on the basis of three assumptions: spectral curves of the three primary sensations, the Weber-Fechner law, and the hypothesis of geometric summation of the variations of the primaries. Inversely, experimental knowledge of differential color sensitivity (to both chroma and saturation) allows the reconstruction of the curves if the hypotheses of Helmholtz are accepted. The writer in this way has calculated the "natural primaries." It is unfortunately impossible to admit the reality of these "natural" primaries, for one would have a negative coefficient of luminosity. It is believed that the difficulties arise from the concept of brilliance of primaries, too simple in its usual form. The color triangle at which the writer arrives resembles in the center that of Judd, but is otherwise considerably different.—F. W. Finger (Brown).

4452. Spache, G. A comparative study of three tests of visual acuity. *J. appl. Psychol.*, 1940, 24, 207-212.—The Snellen, Eames, and Jensen visual acuity tests were administered to several groups of children, and the intercorrelations between them obtained. On the basis of a critical analysis of the tests it was concluded that the Jensen test is superior to the Snellen test, and the Snellen superior to the Eames.—E. E. Ghiselli (California).

4453. Spadavecchia, V. [Introductory considerations concerning the optico-physio-psychologic func-

tions of vision with especial regard to the psychic component.] *Ann. Otol.*, 1939, 67, 801.—The importance of the psychological elements involved in the act of vision is emphasized for all aspects of seeing.—D. J. Shaad (Institute of Ophthalmology, New York City).

4454. Stefanini, A. La percezione de suono. (The perception of sound.) *Arch. ital. Otol.*, 1938, 50. Pp. 23.—The writer discusses several recent theories of audition. He supports the resonance theory, supplementing it by an explanation of the mechanism of the nervous excitation. The transformation of the physical stimulus into the "nervous electrical current" is due to the production of electromotive force by contact between the hairs of the cells of the organ of Corti and the tectorial membrane.—(Courtesy *Année psychol.*).

4455. Takagi, S. [An experimental analysis of "the factor of proximity" and "the factor of equality."] *Jap. J. Psychol.*, 1940, 15, 1-16.—An experimental analysis of the factor of proximity and that of equality advocated by Wertheimer, dealing with spatial arrangements of visual objects not in two but in three dimensions, shows that a real determinant in the so-called factor of equality is one that is construed as a phenomenal similarity; the presence or absence of shadows as well as the difference of visual structure have some effects on visual unity through their participation with this phenomenal similarity.—R. Kuroda (Keijo).

4456. Therman, P. O. The neurophysiology of the retina. *Acta. Soc. Sci. fenn.*, 1938, B, 2, No. 1. Pp. 74.—A research on the influence of various substances on the electrical response of the excised frog's eye to light. Glucose augments the *b* wave; potassium increases the negative *a* wave, and eliminates the *b* wave and the nerve discharge. The effect of calcium is antagonistic to that of potassium. Eserin and acetylcholine have depressing effects. Strychnine and atropin first exaggerate and then depress the *b* wave. Adrenalin depresses the *b* wave and increases the *d*, lengthening all latencies. Nicotine has no noticeable effect. These data corroborate Granit's analyses.—F. W. Finger (Brown).

4457. Thordarson, M. Self-experimentation in artificially produced night-blindness. *Acta ophthalmol., Kbh.*, 1939, 17, 476-480.—P. L. Krieger (Leipzig).

4458. Trovati, E. [Increase in the area of the indirect visual field in one eye in relation to the binocular visual field in orthophoria and in concomitant external and internal strabismus.] *Ann. Otol.*, 1939, 67, 681.—A limitation of the temporal half of one visual field (usually the left) may be demonstrated in normal eyes which show unequal fields. In convergent concomitant strabismus, the field of the fixing eye is normal while the deviating eye shows constriction of the nasal periphery; the binocular field shows temporal monocular limitation on the side of the strabismic eye. In concomitant divergent strabismus, both fields show concentric constrictions; the binocular field shows slight limitation of the common central field and some restriction

of the temporal field of the strabismic eye.—D. J. Shaad (Institute of Ophthalmology, New York City).

4459. Ufiand, J. M. [The role of different receptors in the phenomenon of repercussion.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 138-146.—The investigation of the change of reception in man and animals shows that the different systems can influence the functional state of separate links of the motor system and of the different receptors of the sensory system. Excitation of exteroceptors, proprioceptors, and interoceptors can elicit the phenomenon of repercussion in the afferent and efferent systems.—A. Yarmolenko (Leningrad).

4460. Vermeulen, R. Acoustique des salles et intelligibilité. (Acoustics of halls and intelligibility.) *Rev. tech. Philips*, 1938, 3, 143-151.—Curves are given of decreasing intelligibility as a function of increasing noise, at different levels of intensity of speech. Intelligibility is further dependent upon the distribution of the acoustic energy among the various frequencies. Particularly important are the frequencies between 1000 and 2000 cycles; the elimination of all tones above 2000 cycles leaves an intelligibility of 0.75 (of a possible 1.0), and canceling of tones below 1000 allows a figure of 0.8. The intelligibility is basically a function of amount of reverberation from the walls of the room. The writer considers this factor in detail, giving data on the optimum duration of the echo.—(Courtesy *Année psychol.*).

4461. Voorhees, I. W. Defects in speech in relation to defects in hearing. *Arch. Otolaryngol., Chicago*, 1940, 31, 7-15.—W. J. Brogden (Wisconsin).

4462. Weber, H. H. Goethes Totalitätsgesetz. (Goethe's law of totality.) *Forsch. Fortschr. dtsh. Wiss.*, 1940, 16, 126-127.—In order to be harmonious, any comparison must contain the essential elements and primary colors red, yellow, and blue. If but one of these is present, it must at least be accompanied by the combination color (complementary color) produced by the other two, e.g. violet along with yellow. The laws of totality of Field and Ostwald, however, are ineffectual, since color comparisons from a single sector of the color circle are always incomplete. By apparent physiological demands of the eye, Goethe frequently meant demands *psychical* in nature. From this fact arise the numerous misunderstandings of his color theory.—P. L. Krieger (Leipzig).

4463. Weinstein, E. A., & Bender, M. R. Dissociation of deep sensibility at different levels of the central nervous system. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 488-497.—Dissociated loss of postural and vibratory sensation was found to be not uncommon with lesions of the cerebrum, brain stem, and spinal cord. In 7 patients with cerebral lesions, disturbance of deep sensibility, position sense, stereognosis, and two-point discrimination were lost or markedly diminished, while appreciation of vibration was spared or slightly affected. There were no cases where the converse was true. With

lesions at the thoracic and lumbar levels of the spinal cord the opposite type of dissociation was found. Vibratory sense in the lower extremities was affected earlier and more severely than was the sense of position. In 3 patients with compression of the cervical region of the cord and medulla, with dissociated loss of deep pressure sensation involving the upper extremities, sense of position was more affected than that of vibration, again with astereognosis. The relationship between the clinical disturbances and the structure, function, and development of the posterior columns is discussed.—*W. J. Brogden* (Wisconsin).

4464. West, R. A critique of the rationals of tests of hearing. *J. Speech Disorders*, 1940, 5, 19-24.—The method of group tests of hearing acuity using recordings of figures presented at different intensities is found to have a low coefficient of reliability, based upon 10,000 test scores. Selecting 1000 subjects with low scores on the group tests and giving them follow-up tests with the 2A audiometer resulted in a correlation of .38 between the two sets of scores. The author discusses the basic differences between the pure-tone and the group audiometers. He concludes that as a "screen" for the selection of pupils who need otological treatment the "numbers test" is inadequate, and group tests using pure tones should be devised. As a practical test for the hearing of speech sounds a reliable group instrument is needed.—*C. V. Hudgins* (Clarke School).

4465. Wever, E. G., & Bray, C. W. The effects of chemical substances upon the electrical responses of the cochlea: I. The application of sodium chloride to the round window membrane. *Ann. Otol., etc., St. Louis*, 1937, 46, 291-302.—After application of salt to the round window of the guinea pig, there is first an increase of cochlear response. There follows a decline in response, first rapid and then slower. The first decrease is nearly equal for all frequencies; the secondary decline affects high tones more than lower frequencies. When the salt is applied at either the round window or the apex, the reduction of response is greater if the electrode is placed at the level of the salt application. The early rapid decline is attributed to a general cochlear disturbance, while the slower falling off which follows may be related to damage of the hair cells.—*F. W. Finger* (Brown).

4466. Wever, E. G., & Bray, C. W. A comparative study of the electrical responses of the ear. *Proc. Amer. phil. Soc.*, 1937, 78, 407-410.—The cochlear response was recorded in the guinea pig between 5 and 25,000 cycles, in the opossum between 200 and 25,000 cycles, and in the pigeon between 100 and 10,000 cycles. Responses were detected in the cat between 35 and 25,000 cycles, but this probably does not truly represent the lower limit. The relationship between the amplitude of response and the intensity of the tone is analogous in the four forms, but the sensitivity of the pigeon and the opossum is considerably less than that of the other two species. Maximum sensitivity for the guinea pig is between

500 and 700 cycles, for the cat around 1000 cycles, for the pigeon about 2000, and for the opossum 7000. These differences are attributed to characteristics of the peripheral receptor mechanism.—*F. W. Finger* (Brown).

[See also abstracts 4326, 4496, 4498, 4515, 4540, 4562, 4578, 4647, 4660, 4673, 4808, 4809, 4810.]

LEARNING, CONDITIONING, INTELLIGENCE

(Incl. Attention, Thought)

4467. Ananiev, B. G. [The psychological investigation of functional connections.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 94-98.—In a series of investigations it was determined that functional connections are not immanent, but are produced by the evolution, activity, and practical change of individual consciousness, reflecting the objective-material connections. This explains the graded character of these connections and their individual form.—*A. Yarmolenko* (Leningrad).

4468. Asnin, V. S. [The peculiarities of motor habits depending on the conditions of their formation.] *In Psikhologichni doslidzennia. Naookovi zapiski.* Kharkov: Derj. Ped. Institut, 1939. Pp. 36-61.—Habit is not an independent behavior form, as supposed by behaviorists, but rather a fixing mechanism for activity. The nature of habit is conditioned by the character of action fixed in it and determined by the ways of its formation. A series of experiments forming mechanical motor habits were performed. The following conclusions were drawn: The formation of conscious as well as mechanized habits is possible in certain conditions. The process of teaching a pupil conscious habits differs definitely from the acquiring of mechanized habits, the difference being in the rapidity of formation and in the course. The habit acquired consciously is labile and variable, while the mechanically acquired habit is motionless and inert.—*A. Yarmolenko* (Leningrad).

4469. Bally, G. Über das Wesen des Verstehens und der Verständigung. (The nature of understanding and agreement.) *Gesundh. u. Wohlf.*, 1939, 19, 369-378.—*P. L. Krieger* (Leipzig).

4470. Boreas, T. Experimentelle psychologische Forschungen. Die Phantasie und ihre Beziehungen zu den anderen Seelentätigkeiten. B. Phantasie und Gedächtnis. (Experimental psychological studies. Imagination as related to other mental activities. B. Imagination and memory.) *Arch. ges. Psychol.*, 1939, 105, 243-257.—Memory and imagination were tested in a group previously studied (see XIII: 3558), standard memory methods being employed. For creative imagination, correlations between .50 and .60 were obtained, the coefficients increasing with age. For concrete imagination the correlations were considerably higher for children below 13, and about as before for adults.—*H. D. Spoerl* (American International College).

4471. Boreas, T. Experimentelle psychologische Forschungen. Die Phantasie und ihre Beziehungen zu den anderen Seelentätigkeiten. C. Phantasie und Intelligenz. (Experimental psychological studies. Imagination as related to other mental activities. C. Imagination and intelligence.) *Arch. ges. Psychol.*, 1939, 105, 258-274.—Intelligence was correlated with imagination as tested in a group of about 200 of varying ages (see XIII: 3558). For creative imagination, correlations slightly below .70 were obtained, the coefficients increasing with age. For concrete imagination the correlations were somewhat lower.—H. D. Spoerl (American International College).

4472. Brown, W., & Buel, J. Response tendencies and maze patterns as determiners of choices in a maze. *J. comp. Psychol.*, 1940, 29, 337-399.—Wishing to ascertain what factors determine differential errors in maze pathways on the initial trial, the authors required over 400 college students to trace linear 16-unit recording punch mazes. 16 mazes having all possible combinations of right and left turns in the first four units, free choice in the next two units, and a random assortment of error patterns in the last 10 units were used. 2 free-choice mazes with no blinds in the first 6 units were also run by each subject. Only the first runs are considered in this paper. The reactions were to a great extent determined by the maze pattern. Some patterns of reaction were frequent, some infrequent, depending upon the maze. The number of times a given alley was entered by the group depended upon the nature of preceding units. 3 determining tendencies are named and described. These operated also in the free-choice maze. The results of this experiment lead to the conclusion that "there are determining tendencies within the organism itself which, taken in conjunction with the arrangement of turns in the maze, permit some predictions about what the subject will do at particular choice-points." Theories of maze learning which regard particular responses as a function of the goal-reaction are regarded as premature. Bibliography.—N. L. Munn (Vanderbilt).

4473. Buxton, C. E. Retroaction and gains in motor learning: III. Evaluation of results. *J. gen. Psychol.*, 1940, 22, 309-320.—In previous studies by the author only slight effects of interpolated activities of several kinds on retention of a previously learned pursuit-rotor task were demonstrated, consisting in less improvement through active periods than through rest periods. Factors such as increased effects of reminiscence in motor learning, the difficulty in determining similarity in motor tasks, fatigue, amount of cognitive control necessary to a task, amount of improvement possible in the task, the newness or oldness of the task in question, and differential motivation are advanced as possibly explanatory of the failure to find conventional retroaction effects. Time intervals and degrees of mastery of the interpolated and original tasks are not considered important factors in this connection. Theoretical discussion is made in terms of Koffka's

trace theory. Other determiners of gains in motor learning are recovery from work decrement, improved conditions of recall, relaxation, and adjustment of level of aspiration.—C. N. Cofer (Brown).

4474. Calvarezo, C. Explicarea învățării exercițiilor de gimnastică suedeză activarea factorilor structurali. (The explanation of the learning of Swedish gymnasium exercises in terms of the activation of structural factors.) *Ann. Educ. fizice*, 1938, 7, 101-106.—The analysis of the course of learning of Swedish exercises by 3 children of 11 years leads the investigator to explain the differences in learning on the basis of the psychophysical structure of the exercises. Thus those exercises in which predominate the factors of equality, continuity, symmetry, and pleasing movement are learned more easily than those the elements of which possess a high degree of independence.—(Courtesy *Année psychol.*).

4475. Churchman, C. W. Elements of logic and formal science. Philadelphia: Lippincott, 1940. Pp. ix + 337. \$3.00.—An introductory text book of logic, with exercises and reading suggestions. There are sections on the traditional logic stated in a symbolic form, on problems of scientific method, fallacies, and the logical paradoxes, on conflicts between logic and other sciences, and on modern developments in logic, particularly the Boolean algebra.—J. H. Jackson (Brown).

4476. Clausse, A. Le "transfer of training" et l'esprit d'observation. ("Transfer of training" and the power of observation.) *Arch. Educ., Brux.*, 1938, 4, 263-274.—There is no general function of observation; observation can be defined as a clear perception, made possible by a narrowing of the field of consciousness. To improve the power of observation is essentially to create an interest. And the writer believes this to be impossible (in students) because experiments demonstrate that progress ceases as soon as the favoring conditions are replaced by new conditions. Transfer is therefore possible only to the extent that the methods applied are similar, and within the limits of interest.—(Courtesy *Année psychol.*).

4477. Fearson, A. D. The imagination. *New Scholast.*, 1940, 14, 181-195.—Most Scholastic authors give to the imagination only the tasks of preserving and reproducing sense images. The writer suggests extending the meaning to include the formation of three kinds of images: (1) of present objects, (2) of absent objects, and (3) of imaginatively constructed objects. Imagination works faithfully in both normal and abnormal functioning. Normally, however, impressions of external objects on the external senses correct the externalizing influence of the imagination; but in hallucinations, imagination does not come under the corrective supervision of the external senses.—M. F. Martin (West Springfield, Mass.).

4478. Freeman, G. L. Discussion: 'Central' vs. 'peripheral' locus of set; a critique of the Mowrer, Rayman, and Bliss 'demonstration.' *J. exp.*

Psychol., 1940, 26, 622-628.—The author criticizes the Mowrer, Rayman and Bliss (see XIV: 3413) alleged demonstration of a "central" locus of set on the grounds that no adequate check of differential motor (sense organ) adjustments was made.—H. W. Karn (Pittsburgh).

4479. French, J. W. Trial and error learning in paramecium. *J. exp. Psychol.*, 1940, 26, 609-613.—Data are presented which show that when paramecia are repeatedly enclosed in a glass tube which allows free turning, the average escape time decreases in successive trials. The modification in behavior is not related to general activity and seems best understood in terms of learning.—H. W. Karn (Pittsburgh).

4480. Garrett, H. E. Variability in learning under massed and spaced practice. *J. exp. Psychol.*, 1940, 26, 547-567.—Three tasks (symbol-digit substitution test, code learning test, artificial language test) were administered to college students under conditions of massed and spaced practice. 5-trial and 10-trial work periods covering the same working time were employed. The following results were obtained: (1) Spaced practice is more efficient than massed practice for the easier tests (code learning and symbol digit). Massed practice gave better results for the harder test. (2) For the same working time, 5-trial periods are more effective than 10-trial periods. This holds for massed and for spaced learning, for hard and easy tasks. (3) Women are superior to men in tests requiring language associations; men are superior on tests demanding spatial and numerical associations. Material is more important than difficulty or practice conditions in making for sex differences. (4) The variability of the groups remained constant throughout the total working period. (5) Both sample variance and practice variance contribute to total variance over the work period. Of the two factors, practice was more effective than differences among individuals in making for variability over the whole experiment.—H. W. Karn (Pittsburgh).

4481. Hovland, C. I. Experimental studies in rote-learning theory. VI. Comparison of retention following learning to same criterion by massed and distributed practice. *J. exp. Psychol.*, 1940, 26, 568-587.—In this study college students learned nonsense syllables to a criterion of one perfect recitation. 6 seconds elapsed between trials during massed practice and 2 minutes between trials during distributed practice. Retention was tested at intervals of 6 seconds, 2 minutes, 10 minutes, and 24 hours. Recall was better following learning by distributed practice than following learning by massed practice despite the fact that fewer trials had been spent in learning by distributed practice. Similar results were obtained when the numbers of trials required to relearn to the original criterion for each interval were computed. Forgetting curves were plotted with the time intervals spaced logarithmically. Following the first 2 minutes, both recall and relearning showed a linear decrease as a function

of the log of time. During the first 2 minutes, however, both curves show a slow rate of forgetting, that following massed practice actually showing an initial increase in retention. The apparent divergence between the curves for distributed practice and massed practice learning becomes greater with the passage of time. The theoretical significance of the findings is discussed.—H. W. Karn (Pittsburgh).

4482. Humphreys, L. G. The variability of extinction scores in 'Skinner-box' experiments. *J. exp. Psychol.*, 1940, 26, 614-617.—In order to reduce the variability of extinction scores in a "Skinner-box" experiment two innovations in procedure were made: (1) extinction was limited to constant 10-minute periods, (2) one of these immediately followed acquisition. The two changes in procedure markedly reduce extinction variability (standard deviations one-half to one-fourth as large). The 10-minute extinction period is the more important of the two factors, but immediate extinction also contributes to more homogeneous results. Since rate for a constant interval is probably as valid an indicator of strength of response as number of responses to a criterion, the lower variability makes the change to the former advisable. This suggests that the use of criteria could be profitably discarded in other learning situations as well.—H. W. Karn (Pittsburgh).

4483. Jenkins, M. D. Racial differences and intelligence. *Amer. Teacher*, 1940, 24, 12-13.—When two comparable groups of Negroes and whites are tested, there is found to be a difference in averages favorable to the whites, but differences within are greater than differences between the groups. The summary of evidence indicates that the hypothesis of racial difference in intelligence has not been demonstrated.—W. E. Walton (Nebraska).

4484. Kellogg, W. N., & Wolf, I. S. 'Hypotheses' and 'random activity' during the conditioning of dogs. *J. exp. Psychol.*, 1940, 26, 588-601.—In this experiment the flexion response was conditioned to an auditory stimulus, with shock as the unconditioned stimulus. Kymographic records of respiration and of the movements of all four feet during conditioning were obtained. Some of the dogs, although they developed the CR, never struggled at all. Others struggled continuously, but developed the conditioned flexion as an entirely independent reaction. Occasionally a dog developed conditioned struggle after it had developed the flexion CR without struggle. Stopping of struggle or its onset sometimes took place with a suddenness characteristic of insight. Other persisting patterns of activity (vocalizing, peculiar temporal sequences of lifting one or more of the non-shocked feet, etc.) were also observed in response to the conditioned stimulus. Sometimes the shift in these activities was abrupt. To account for the rapid shifts among different patterns of persisting behavior, the doctrine of "hypotheses" in learning is applied. It is thus not necessary to suppose that insight or "hypotheses

behavior" is something which is entirely incompatible with the traditional CR or that the two represent different kinds of learning.—H. W. Karn (Pittsburgh).

4485. Krochowska, R. S. Über die Abhängigkeit der Gewöhnung bei Vorticellen von der Frequenz wiederholter Reize. (The dependency of adaptation in *Vorticella* on the frequency of repeated stimuli.) *Bull. int. Acad. Cracovie*, 1938, 2, 89-107.—The responses of *Vorticella* to being dropped in a drop of water ceased after a certain number of repetitions separated by not more than 20 to 25 seconds.—(Courtesy *Année psychol.*).

4486. Martino, G., & Alibrandi, A. L'agevolazione e l'inibizione in rapporto alla qualità dello stimolo luminoso, nel riflesso condizionato nell'ammiccamento. (Facilitation and inhibition of the conditioned wink reflex in relation to the quality of the light stimulus.) *Arch. Fisiol.*, 1938, 38, 200-219.—A red light was found to be less efficacious than a blue-violet light of the same intensity in establishing a conditioned wink reflex. The former required 2247 associations during 134 sittings, as compared to 1916 repetitions during 109 trials for the latter, when each was applied to an individual eye. Moreover, the red-conditioned response was more easily inhibited and less stable.—(Courtesy *Année psychol.*).

4487. Masaki, M. [On the conditioning process in behavior.] *Jap. J. Psychol.*, 1940, 15, 17-40.—Five rats were used to study the process of habit formation and its extinction by obstructing agents. The author claims to support the theory of insight or sign-gestalt from the results gained, and suggests that modifying behavior should be construed as a process of structuralization or reconstruction.—R. Kuroda (Keijo).

4488. McCloy, C. H. A preliminary study of factors in motor educability. *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 28-39.—The writer suggests an analysis of motor educability paralleling the study of intelligence. Already numerous factors have been tentatively identified by such methods as factor analysis. 10 prerequisites to effective motor learning and 16 definite factors in motor educability are noted, the latter including the ability to visualize spatial relationships, sensory motor coordination, judgment of the relationship of the subject to external objects, general kinesthetic sensitivity and control, factors involved in the function of balance, timing, motor rhythm, and sensory rhythm. The directions which further research may take are indicated.—F. W. Finger (Brown).

4489. Moore, A. R., & Welch, J. C. Associative hysteresis in larval amblystoma. *J. comp. Psychol.*, 1940, 29, 283-292.—True learning is defined as ability to "establish associations with non-essential signals." Larval amblystoma learned to associate food and movement of a hand over their jar, food and a light intermittently flashing, a given turn in a T-maze and escape into a dish of water, and chemical stimuli and the presence of a worm. In variations of the latter experiment, the worm was placed be-

yond reach in a perforated glass tube. Inhibition of the snap reflex was produced in such situations. Retention of the effects of training over periods ranging, for different situations, from 24 hours to 8 weeks is reported.—N. L. Munn (Vanderbilt).

4490. Roginsky, G. S. [On the comparative psychology of monkeys.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 99-105.—The analysis of psychic processes in apes shows that the ape is not the slave of the visual field, but can detect some interrelations between objects. Often "inquisitiveness" or a tendency to play are stronger motives than food. All apes have elementary notions, and in their psychic abilities are not far from man.—A. Yarmolenko (Leningrad).

4491. Schitov, F. M., Yakovleva, V. V., Pressman, J. M., & Blagoveshchenskaya, V. P. [Morphological basis of conditioned reflex activity.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 193-201.—In dogs with differentiated localization zones a chaotic behavior is observed. The integrity of the cortex plays a general role in conditioned reflex activity, which is shown by unstable and inconstant conditioned reflexes and the defects of summation of the nervous system.—A. Yarmolenko (Leningrad).

4492. Strehle, H. Der mimische Ausdruck des Denkens. (The mimetic expression of thinking.) *Z. angew. Psychol.*, 1940, 58, 358-366.—This is a discussion of certain points in J. Schänzle's book of the same title, with which the author is not in accord.—G. F. J. Lehner (University of Miami).

4493. Welch, L. A preliminary investigation of some aspects of the hierarchical development of concepts. *J. gen. Psychol.*, 1940, 22, 359-378.—This paper is a review of literature concerned in various ways with the growth of abstract thought in children. Four major conclusions from this study are: (1) "Discrimination, generalization and memory are the major factors involved in the genetic development of abstract thinking." (2) "The associational or memory development necessary for the first manifestation of genus-species phenomena at the linguistic level comes later than the requisite development of discrimination and generalization for the same behavior." (3) "The genetic development of the structures of abstract thought may be described as passing through rather definite stages." (4) "The weakest level in the process of learning hierarchical concepts above the first hierarchy is just below the most inclusive class of all." 31 references.—C. N. Cofer (Brown).

4494. Wilczkowski, —. [Experimental studies of the existence of conditioned chemical reflexes in human blood. Psychochemical reflexes in human blood: their characteristics in mental patients.] *Roczn. Psychiat.*, 1938, 33, 43-91.—The use of salt or sugar as a psychic stimulus resulted in bringing about a reflex diminution in the salt and glycogen content of the blood, respectively. These normal reactions were exaggerated in certain mental disorders, especially epilepsy and certain forms of schizophrenia, and absent in others.—(Courtesy *Année psychol.*).

4495. Zaumseil, E. *Zur Geschichte und Systematik eines rein psychologischen Begriffes der Assoziation.* (Historical and systematic discussion of a purely psychological concept of association.) *Arch. ges. Psychol.*, 1939, 105, 101-161.—Herbart represents a turning point in the development of the association theory, by his insistence on a phenomenological rather than a physiological point of view. His influence is traced through Fechner to Wundt; the criticisms of Lotze and Lipps are also discussed. In the main, modern configurational strictures upon Wundt's theory apply to misconceptions of it rather than to his actual doctrine.—H. D. Spoerl (American International College).

4496. Zoll, M. *Die Fehler bei der graphischen Interpolation einer vorher gezeigten Kurve.* (The errors in graphical interpolation of a previously presented curve.) *Arch. ges. Psychol.*, 1939, 105, 58-100.—Linear curves and conic sections were presented to the subjects for 5 seconds. They were then reproduced on prepared blanks containing some plotted points, several possible variations in the arrangement of the auxiliary points being provided for each function. Accuracy of reproduction depended on the distribution rather than the number of the auxiliary points, and symmetrical distribution was especially favorable. Extrapolation, as in the case of the parabola, was well performed. If auxiliary points are relatively distant from the region of sharpest curvature this curvature tends to be exaggerated. Linear functions created no problem, even in the case of "unfavorable" directions of drawing.—H. D. Spoerl (American International College).

[See also abstracts 4383, 4575, 4614, 4676, 4715, 4822.]

MOTOR AND GLANDULAR RESPONSES

(Incl. Emotion, Sleep)

4497. Austregesilio, A. *Fames, libido, ego.* (Hunger, libido, ego.) *An. Inst. Psicol. Univ. B. Aires*, 1938, 2, 35-88.—The author discusses the evolution of hunger, libido and ego, particularly hunger; their quotas in the individual life periods, in the species and society, and their disturbances in the neuroses. Somatic and mental disease originate in functional or organic modifications of these three forces. Hunger, which is imperious from fetal life to death, and on every level from the cellular to the symbolic, signifies taking from the environment whatever is necessary for the individual's growth and reproduction. Libido is the outgrowth of hunger and together they constitute the *élan vital*. The ego originates from hunger and libido, chiefly the latter, which forms the connecting link. Bread and love are the ultimate symbols of the physical, intellectual and emotional life, and abundance of food is the symbol of power and satisfaction. Neurovegetative disturbances, desires, impulses, domination, and preying are expressions of hunger; ambivalence, doubts, scruples, certain obsessions, emotional crises, and amorous and mystical symbolism, of

libido. The metamorphoses of hunger and libido constitute progress, civilization, art, and religion.—M. E. Morse (Baltimore).

4498. Bakker, A. *Beiträge zur Kenntnis einiger merkwürdiger Pupillenbewegungen.* (Contributions to the knowledge of certain important pupillary movements.) *v. Graefes Arch. Ophthalm.*, 1938, 139, 273-279.—If the iris of the albino rabbit's eye is excised and preserved, acetylcholine continues to be formed for several days. Its concentration may increase to a point such that atropine is unable to counteract the effect. When the nerves degenerate the formation of the substance ceases. Likewise, *in vivo*, certain pathological cases have been observed of such strong myosis that atropine could not bring about pupil dilation.—(Courtesy *Année psychol.*).

4499. Bayroff, A. G. *The experimental social behavior of animals. II. The effects of early isolation of white rats on their competition in swimming.* *J. comp. Psychol.*, 1940, 29, 293-306.—Pairs of rats, one reared in isolation and the other in a group, were forced to swim under water and against a current to reach an exit through which only one could gain immediate escape. The rat which failed to reach the exit first was trapped under water for a short period. Both rats of a pair, as determined by preliminary tests, had the same swimming speed. Winners of the competition were as frequently from the solitary as from the social group, hence previous social life was not a determiner of success. Age, weight, sex, and litter membership were not determiners of success. Most animals, regardless of group, increased their speed of swimming during competitive trials. This was true of both victors and losers.—N. L. Munn (Vanderbilt).

4500. Bielschowsky, A. *Lectures on motor anomalies.* Hanover, N. H.: Dartmouth College Publications, 1940. Pp. 128.—Twelve lectures originally published in the *American Journal of Ophthalmology* have been reprinted. These include three lectures on the physiology of ocular movements and theory and symptoms of heterophoria; three lectures on the etiology, development, and surgical treatment of strabismus; five lectures on ocular paralyses; a final lecture on ocular spasms. The discussions are of particular interest to the practising ophthalmologist. A portrait of the author is included.—D. J. Shaad (Institute of Ophthalmology, New York City).

4501. Billingslea, F. *The relationship between emotionality, activity, curiosity, persistence and weight in the male rat.* *J. comp. Psychol.*, 1940, 29, 315-325.—The various situations in which the above-mentioned traits were measured are described. Reliabilities ranged from .43 (curiosity) to .93 (activity in wheel). Intercorrelations were in most instances low. The author was not interested so much in these as he was in "how the traits tended to be grouped so as to individualize the rat." He presents the hypothesis that "In situations which are familiar or to which the rats have become adjusted by a training period, the achievements of the emo-

tional rat are superior to those of the non-emotional rat. In strange situations, the performance of the emotional animal is inferior to that of the less emotional animal, because fear inhibits the expression of adequate adjustments."—*N. L. Munn* (Vanderbilt).

4502. *Billström, J.* L'ontogenèse du sourire. (The ontogenesis of smiling.) *Acta paediatr., Stockh.*, 1939, 25.—The genetic development of smiling is discussed on the basis of the literature and the author's own work.—*D. Shalow* (Worcester State Hospital).

4503. *Bloomfield, A. L.* Psychic gastric secretion in man. *Amer. J. digest. Dis.*, 1940, 7, 205-208.—A small stomach tube was inserted into the stomach of hospitalized patients, and the gastric juice was collected by continuous aspiration over successive 10-minute periods. When the secretion had reached an approximately constant basal level, the experimenter, during a final 10-minute period, discussed with the patient the subject of his favorite foods and the methods of preparing and serving them. The volume and acidity of the juice during the control and test periods were compared. The volume of gastric juice collected during the test period was considerably greater than that during the control periods. No significant change in acidity occurred.—*W. J. Brogden* (Wisconsin).

4504. *Brown, R. R.* The order of certain psychophysiological events following intravenous injections of morphine. *J. gen. Psychol.*, 1940, 22, 321-340.—The subjects of this study were three former morphine addicts, who had been off morphine for three or more months, and two graduate students. A continuous injection technique was used for both morphine administration and control (saline) injections. Pulse and respiratory changes and subjects' reports were recorded. "Physiological changes were produced prior to reports of drug effect, the respiration showing the typical decrease, whereas the pulse increased in rate. The two non-addict subjects did not differ from the three former addicts with respect to directional changes in pulse and respiratory rates" but "reported the effects (of morphine) as being disagreeable; whereas the former addicts reported pleasant effects." It is suggested that the action of morphine may be fundamentally excitatory. 45 references.—*C. N. Cofer* (Brown).

4505. *Chase, P. E.* An experimental study of the relation of sensory control to motor function in amphibian limbs. *J. exp. Zool.*, 1940, 83, 61-93.—In experiments done upon the embryos of the urodele *Amblystoma punctatum* two methods were used to destroy the normal sensory innervation of the developing forelimbs. In most cases there is a close correlation between the amount of afferent innervation and the extent of motor activity in the forelimb. In experiments done upon the adult newt *Triturus viridescens* the afferent nerves were abolished. The absence of sensory nerves did not immediately affect the use of the adult limbs, but after six weeks the limbs showed some hyperextension. The evidence favors the view that afferent innervation

plays a significant role in building up the motor pattern of urodele limbs, but once established such nerves are not essential to the exercise of motor patterns.—*L. Carmichael* (Tufts).

4506. *Coghill, G. E.* Early embryonic somatic movements in birds and in mammals other than man. *Monogr. Soc. Res. Child Develpm.*, 1940, 5, No. 2. Pp. 48.—This is primarily a critical review. It includes some new evidence on mammals. Quotations from the works of several authors are listed, with summaries of their conclusions. Special attention is devoted to the problems of the "pocket-knife" reaction, myogenic movements, and the individuation versus the integration of reflexes.—*N. R. Bartlett* (Brown).

4507. *Drew, G. C.* The recurrence of eating in rats after apparent satiation. *Proc. zool. Soc. Lond.*, 1937, 107, 95-106.—Many different stimuli may cause apparently satiated rats to resume eating, which suggests that satiation is an internal inhibition susceptible to being aroused by a variety of stimuli, like a conditioned inhibition.—*H. Beaumont* (Kentucky).

4508. *Elbel, E. R.* A study of response time before and after strenuous exercise. *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 86-95.—The interval between the sound of a bell and the movement of various parts of the body was measured before and after exercise (stool-stepping and push-ups, and basketball, fencing, and boxing) for 129 male university students. For several of the kinds of response there were significant decreases in reaction time after athletic competition, but not after the more formal exercise. "It is suggested that in the competitive exercises an emotional component arises which may be an influencing factor in the reduction of the response time. . . . It is suggested that individual cases that become slower after exercise were experiencing the onset of fatigue to the point where there was a lessening of ability to respond."—*F. W. Finger* (Brown).

4509. *Erben, S.* Im Labyrinth ist nicht das Gleichgewichtsorgan des Menschen gegeben. (Man's organ of equilibrium is not located in the labyrinth.) *Schweiz. med. Wschr.*, 1939, 69, 757-762.—Vestibular reflexes do not provide cues enabling the maintenance of erect posture in man, but the static sense is located in the soles of the foot.—*P. L. Krieger* (Leipzig).

4510. *Essen, K. W., & Hansen, M.* Verhält sich der galvanische Hautreflex bei normalen Personen konstant, und wie ändert er sich bei körperlicher Arbeit? (Does the galvanic skin reflex remain constant in normal persons, and how does it change with physical work?) *Z. ges. exp. Med.*, 1940, 107, 590-602.—If the essential conditions for measurement are maintained, the galvanic reflex in normal persons remains (with a probability of 85%) within the limits laid down by Essen as normal. Toward noon there is a maximal tendency to a torpid, and toward evening to a lively reaction. The changes are due to the vegetative rhythm. Meal times have no

recognizable influence on the reflex. During the pause for recuperation after physical work, the reflex shows a transient quickening and strengthening lasting a few minutes.—*P. L. Krieger* (Leipzig).

4511. Evans, L. T., & Clapp, M. L. The relation of thyroid extract to territorial behavior and to anoxemia in *Anolis Carolinensis*. *J. comp. Psychol.*, 1940, 29, 277-281.—An average of eight daily intraperitoneal injections of thyroid extract, each equivalent to 15 mg. dry weight, reduced the time required to produce a change of color and a dewlap display in a resident lizard when confronted by a non-resident lizard. The number of non-responses was also reduced by thyroid. Both resident and non-resident lizards evidenced increased pugnacity.—*N. L. Munn* (Vanderbilt).

4512. Freeman, G. L. The relationship between performance level and bodily activity level. *J. exp. Psychol.*, 1940, 26, 602-608.—This study is concerned with the level of palmar skin resistance when individuals are performing above, below, and at their normal congenial pace such tasks as finger oscillation and reaction time. Data from three experiments show that, in general, changes in skin resistance are more related to subjective effort than to performance level per se.—*H. W. Karn* (Pittsburgh).

4513. Frisch, K. v. Nervöse und hormonale Regelung des Farbenwechsels. (Neural and hormonal control of color adaptation.) *Biologie*, 1940, 9, 160.—The adjustment of fish to the intensity of the background illumination is controlled by the nervous system. While the neural pathways from the brain centers to the pigmentation cells of the skin are known, newer studies point to the influence of hormones on this adaptation process. Hormones become particularly active when the neural pathways are blocked, e.g. by severing the spinal cord. Adaptation then becomes slower, but remains adequate provided the pituitary gland remains intact. Fish with normal neural reactions can adapt their coloration for only brief periods when the pituitary action is eliminated. It appears, then, that the nervous system provides rapid color adaptation and pituitary hormones control more lasting reactions.—*P. L. Krieger* (Leipzig).

4514. Gesell, R. Forces driving the respiratory act. *Science*, 1940, 91, 229-233.—This report is primarily concerned with the nervous aspects of the respiratory act. The basic chemical drives, the periodic discharge of the respiratory mechanism in both expiration and inspiration, the role of sensory impulses, the modification of respiration by transient proprioceptive discharges, the effect of the vagus, and the effect of prolonged artificial inflation are considered and accounted for. The author believes that the picture of motor integration presented may be basic to a fundamental concept of the integration of motor activity in general.—*F. A. Mote, Jr.* (Brown).

4515. Gillesen P. Experimentelle Untersuchungen zur Frage der Kontraktilität der Linsenfasern.

(Experimental investigations on the question of the contractility of the fibers of the lens.) *v. Graefes Arch. Ophthalm.*, 1938, 139, 598-618.—After a review of theories of accommodation, data are presented which were obtained from rabbits, cats, dogs, and monkeys. A parasympathetic excitant (acetylcholine or histamine) was injected just under the capsule near the equator of the lens. After 15 minutes there was an increase of refraction, followed by a return (with a final excess of 2 to 4 diopters) to the initial hyperopia. The cells of the lens are then contractile elements similar to smooth fibers, which confirms Krauss' theory. The control may be humoral.—(Courtesy *Année psychol.*).

4516. Giorgio, A. M., & Borgiotti, G. C. Sul graduale instaurarsi, nell'uomo, della corrispondenza fra il piano dell'orbita in cui si manifesta il nistagmo oculare da eccitamento rotatorio del labirinto ed il piano di rotazione. (The gradual development, in the human, of the correspondence between the orbital plane in which ocular nystagmus from rotatory excitation of the labyrinth manifests itself and the plane of rotation.) *Arch. Fisiol.*, 1938, 38, 119-185.—In newly-born premature subjects, under the influence of rotation, the response is a constant ocular deviation in the transverse plane of the orbit, whatever the plane of rotation. A phase of progressive transition follows, and in the 3-months-old normal baby the response corresponds to that of the adult, with nystagmus in the plane of the rotation.—(Courtesy *Année psychol.*).

4517. Hinsche, G. Über die Entwicklung von Haltungs- und Bewegungsreaktionen. (The development of postural and motor reactions.) *Roux, Arch. EntwMech.*, 1939, 139, 724-731.—Anura, which long ago adopted different habitual reaction patterns, could be stimulated to more primitive reactions of fighting, fear, and escape. Graded series of fighting reactions, which usually are considered typical of reptiles, were established in amphibia.—*P. L. Krieger* (Leipzig).

4518. Holm, S. Le strabisme concomitant chez les palénégrides, au Gabon, Afrique équatoriale française. (Concomitant strabismus in primitive Negro stocks at Gaboon, French equatorial Africa.) *Acta ophthalm.*, Kbh., 1939, 17, 366-386.—*P. L. Krieger* (Leipzig).

4519. Holzapfel, M. Triebbedingte Ruhezustände als Ziel von Appetenzhandlungen. (Organic need of rest as the goal of drive behavior.) *Naturwissenschaften*, 1940, 28, 273-280.—Food seeking is the means whereby the animal satisfies his instinctive drive to activity, and flight the means whereby he achieves his organic need for rest. This latter drive may exceed in intensity those of hunger and sex, and explains many otherwise obscure types of animal behavior.—*P. L. Krieger* (Leipzig).

4520. Jacobsen, E., & Wollstein, A. Studies on the subjective effects of the cephalotropic amines in man. I. Beta-phenylisopropylamine sulphate. *Acta med. scand.*, 1939, 100, 157-187.—In the 100 men studied, the effects vary, in regard to mood,

capacity for work, muscular weakness, paresthesias, and sleep. They were weaker in the case of diverted behavior and psychical indolence, and of men of meager introspection. The degree of intelligence and suggestibility had no influence on the intensity and frequency of the effects.—P. L. Krieger (Leipzig).

4521. Jacobsen, E. Studies on the subjective effects of the cephalotropic amines in man. II. A comparison between beta-phenylisopropylamine sulphate and a series of other amine salts. *Acta med. scand.*, 1939, 100.—The effects on man are quantitatively and qualitatively like those obtained in animal experimentation. To a strong anti-narcotic effect in animals there correspond definite subjective effects in man.—P. L. Krieger (Leipzig).

4522. Johnson, W. H., & Raymont, J. E. G. The reactions of the planktonic copepod, *Centropages typicus*, to light and gravity. *Biol. Bull. Woods Hole*, 1939, 77, 200-215.—W. J. Brogden (Wisconsin).

4523. Kamnev, I. E. [On interrelations between functional and structural alterations of the skeletal muscles produced by different altering agents.] *Trud. Inst. Isuch. Mosga Bekht.*, 1939, 11, 170-171.—A. Yarmolenko (Leningrad).

4524. Kuo, Z. Y. Studies in the physiology of the embryonic nervous system. I. Effect of curare on motor activity of the chick embryo. *J. exp. Zool.*, 1939, 82, 371-396.—Curare has no effect on heart beat or amnion contractions. Strong dosage causes complete paralysis of general bodily movements, less strong dosage reduces frequency and magnitude of movements. The results support the view that both the spontaneous movements and the responses to electricity in the chick embryo are nervous in character.—L. Carmichael (Tufts).

4525. Lafleur, L. J. Punitive behavior of ants. *J. comp. Psychol.*, 1940, 29, 327-335.—Anecdotes, from the literature of myrmecology and from the author's own observations, which support the view that ants have a concept of social justice or, at least, intolerance of individuals who are anti-social or incompetent.—N. L. Munn (Vanderbilt).

4526. Laubender, W. Lokalanästhetika. (Local anesthesia.) *Handb. exp. Pharmak.*, Erg. Bd. 8. Berlin: Springer, 1939. Pp. 1-78.—Among other things the author deals with the effect of cocaine upon psychomotor performance, comprehension, and reaction time in man.—P. L. Krieger (Leipzig).

4527. Lindner, T. Reflexioner i anslutning till några fall av skrivarsjuka (s. k. skrivkramp) och en riksdagsmotion. (Reflections in connection with some cases of writer's cramp and a Parliamentary motion.) *Svenska Läkartidn.*, 1940, 37, 649-658.—In connection with a motion in the Swedish Parliament to the effect that writer's cramp should be included in the law of insurance against certain occupational diseases, the writer gives a general discussion of writer's cramp, illustrated by 6 case histories.—M. L. Reymert (Mooseheart Laboratory for Child Research).

4528. Lindner, T. G. Svar till professor Abraham Troell. (Answer to Professor Abraham Troell.) *Svenska Läkartidn.*, 1940, 37, 779-784.—Answer to a criticism voiced by Troell on several points in the author's article "Om skrivkramp och en riksdagsmotion" (On writer's cramp and the parliamentary motion).—M. L. Reymert (Mooseheart Laboratory for Child Research).

4529. Mizerson, A. J. Schwanzreaktionen bei Ratten. (Tail reactions in rats.) *Arch. néerl. Physiol.*, 1940, 24, 409-413.—The tail of the rat plays an important role in attaining and maintaining balance. Experiments with intact animals suggested that the tail reflexes might be under the direct control of the labyrinth; this seems not to be true, as shown by bilateral sectioning of the 8th nerve. The author believes that the tail reflexes are instigated by neck reflexes, since anesthetization of the neck muscles immobilized the tail reflexes associated with head rotation. Further positive evidences favoring this hypothesis will be sought by operations to immobilize various dorsal neck muscles.—C. P. Stone (Stanford).

4530. Morrison-Scott, —. The effectiveness of protective adaptations in insects with reference to an examination of stomach contents of birds of Jidda. *Proc. zool. Soc. Lond.*, 1937, 107, 51-70.—An examination of the stomach contents of 52 species of birds in an area rich in insects showed a predominance of hymenoptera and coleoptera, indicating a decided preference for these orders.—H. Beaumont (Kentucky).

4531. Mühlen, R. v. d. Leistungstempo und Leistungsgehalt. (Tempo and work attitude.) *Z. pädag. Psychol.*, 1940, 41, 76-79.—There is an external, mathematical time, and a personal, constitutional, functional time dependent on metabolism, and expressed psychologically as temperament and work rhythm. Tempo is speed + rhythm. Work rhythms, which depend on complicated tensions, are concerned with the sequence of psychological acts—smooth, irregular, cramped, intense, etc. The chronological world belongs to the machine, urbanization, thought, abstractions, and is inimical to the instincts. The cyclothymic is instinctive, impulsive, illogical, governed by inner time-forms. The schizothymic is disconnected, held down to external time and utmost production, concentration on a definite end, perfectionalism, logic. The result of ignoring these contrasting types is crippling of psychic resistance and decreased productiveness. In military applications, a German plan of values will decide the nation's struggle for existence. It will not overtrain the schizothymic soldier and will allow the cyclothymic's characteristics their full scope. The author gives an original schema for simultaneous registration of speed and work rhythm.—M. E. Morse (Baltimore).

4532. Myasishchev, V. N. [On some psychovegetative dependencies of electrodermal indexes in nervous and mental patients.] *Trud. Inst. Isuch. Mosga Bekht.*, 1939, 11, 125-137.—The fundamental

mechanism of the human cortical activity in relation to the psychogalvanic reflex is not the conditioned reflex but a labile process of reflection in the vegetative nervous system of the dynamics of the cortical-psychical dominant; a process of the transference of the dominant in the cortex has its influence on the vegetative nervous system.—*A. Yarmolenko* (Leningrad).

4533. Nicolay, E. *Messungen an Handschriftproben von Zwillingspaaren über 14 Jahren.* (Measuring handwriting samples of twins over 14.) *Arch. ges. Psychol.*, 1939, 105, 275-295.—This study was made with 80 samples of the handwriting of 20 pairs of twins, half identical and half fraternal, ranging in age from 14 to 41, and each pair like-sexed. Measures were made of length of stroke, breadth of base, and angle of writing. Only the last item seems clearly to have an hereditary basis; otherwise the intragreminal differences were not significant. Variations caused by accelerated writing speed were largely consistent for the entire group.—*H. D. Spoerl* (American International College).

4534. Oliphant, J. F. The effect of chemicals and temperature on reversal in ciliary action in *Paramecium*. *Physiol. Zool.*, 1938, 11, 19-30.—A reversal of the ciliary motion can be obtained by the use of chlorides, bromides, and iodides, but calcium and magnesium have no such effect. The duration of this reversal varies with the concentration of the solution. After adaptation for 18 hours in a given solution, a new reversal can be obtained by increasing, but not by decreasing, the concentration. Changes in temperature do not result in reversal, except very briefly, immediately preceding death, in the case of lethal temperatures.—(Courtesy *Année psychol.*).

4535. Portier, P. *Physiologie des animaux marins.* (The physiology of marine animals.) Paris: Flammarion, 1938. Pp. 253. Frs. 20.—A comparative physiology of marine animals, including studies of locomotion, homochromy, and mimesis.—(Courtesy *Année psychol.*).

4536. Rao, M. S., & Singh, I. The effect of temperature on the mechanical response and the viscosity and oxygen consumption of unstriated muscle. *J. Physiol.*, 1940, 98, 12-25.—The optimum temperature for tonic contraction in frog gastric muscle is 20° C. and in *Mytilus* muscle 14-15° C.; that for the alternating current contraction in frog muscle is 25-30° C. and in *Mytilus* muscle 20° C. The optimum temperature varies with the composition of the saline. Two factors determine the excitability with change of temperature. One is adaptation. Decrease in temperature and tonic contractions diminish the rate of rise in tension during A.C. stimulation, the subsequent rate of relaxation and the rate of change of length on isotonic stretch and release. Normal tone requires oxygen, and most tonic contractions produce an increase in oxygen uptake. Oxygen uptake is not increased during passive relaxation, but is increased during inhibition produced by sodium and ammonium

ions. Isotonic sodium chloride causes frog muscle to lose weight. Calcium antagonizes this action.—*M. E. Morse* (Baltimore).

4537. Sattler, D. G. Vago-neurohypophysial pressor reflex. *Proc. Soc. exp. Biol.*, N. Y., 1940, 44, 82-86.—"In dogs with only vascular connections between head and body, stimulation of the central end of the severed vagus causes blood pressure elevations in the body. Acute hypophysectomy abolishes this reflex. This reflex cannot be obtained in preparations with chronic diabetes insipidus caused by interruption of the supraopticohypophysial tract. This rules out possible error due to shock, trauma, etc., consequent to acute hypophysectomy. These results add to the evidence found elsewhere that the neurohypophysis is subject to nervous control mediated by the supraopticohypophysial tract."—*H. Peak* (Randolph-Macon).

4538. Schneirla, T. C. Further studies of the army-ant behavior pattern. Mass organization in the swarm-raiders. *J. comp. Psychol.*, 1940, 29, 401-460.—The author believes the Eciton swarm raid to be "the most complex instance of mass behavior regularly organized outside the home site in any insect." He describes its origin and the chief characteristics. It is initiated through photokinesis, which "times" its diurnal recurrence. Organization depends upon an hierarchy of interindividual behavior relationships. Chemical and tactual factors and learning are involved. Various pressure effects, which determine the development and characteristic behavior of swarms are described. Environmental factors are important here. The author reaches the conclusion that "The Eciton worker appears to have a low psychological status as compared with other ants. Her capacity for behavior as an isolated individual is very small; on the other hand she is highly specialized in ways which indirectly contribute to very adaptive and well organized mass behavior." Bibliography.—*N. L. Munn* (Vanderbilt).

4539. Sedjnev, V. T. *Uchonye zapiski kafedri psikhologii.* (The doctrine of needs in modern psychology.) Moscow: Moskovski Gos. Ped. Institut, 1939. Pp. 70.—The history of the term "needs" is given critically. The definition of need from the Marx-Lenin point of view is as follows: "Need is a complex phenomenon, arising in the human psychic sphere as a result of reflection or conscious understanding of some processes (physical or psychic) provoked by the lack of something." It includes, in general, the projection of objects or things now necessary. Need is a social phenomenon as well as a psychological one. It is a double relation, with one side related to the object and the other to the subject. Human needs are always connected with conscious speech.—*A. Yarmolenko* (Leningrad).

4540. Seidel, E. *Zur Physiologie des Akkommodationsvorganges am menschlichen Auge.* (A contribution to the physiology of the process of accommodation in the human eye.) v. Graefes *Arch. Ophthalm.*, 1938, 139, 513-519.—The investigator observed the healthy eyes of young human

albinos during accommodation to near objects. The changes in the shape of the lens lead the writer to refute the theories of Tscherning and Pflugk and confirm that of Helmholtz.—(Courtesy *Année psychol.*)

4541. Singh, I. The effect of the interaction of ions, drugs and electrical stimulation as indicated by the contraction of mammalian unstriated muscle. *J. Physiol.*, 1940, 98, 155-162.—Compared to frog plain muscle adaptation in mammalian plain muscle (gastric and retractor penis) is slow. This enables mammalian plain muscle to function at higher temperatures at which the excitability of frog muscle is low as adaptation in both frog and mammalian muscle increases with temperature. The majority of the substances, anions, cations and drugs, affect the excitability to A.C. and potassium in the same direction, but the two excitabilities can be distinguished by the differential effect of hydrogen and calcium ions. Owing to slow adaptation, mammalian plain muscle is highly sensitive to both electrical and chemical stimulation. Mammalian plain muscle does not show the off-contraction. Marked changes in excitability are produced by very small concentrations of drugs. Withdrawal of nitrate, thiocyanate and ammonium ions causes contraction.—M. E. Morse (Baltimore).

4542. Smith, K. U., Kappauf, W. E., & Bojar, S. The function of the visual cortex in optic nystagmus at different velocities of movement in the visual field. *J. gen. Psychol.*, 1940, 22, 341-357.—Electrical records of optic nystagmus in 4 humans, 8 normal cats, and 6 cats lacking the striate areas of the cortex were made at different speeds of the stimulating drum. Optokinetic nystagmus in man was found to occur at speeds somewhat higher than in normal cats. The operated cats showed no marked differences from the normals in the frequency and amplitude of their eye movements, in the maximal velocities at which such reactions occurred, or in the frequency of after-nystagmus. It is concluded that the role of the cortical visual projection areas in mediating optic nystagmus is important only with respect to mediation of responses to isolated patterns in the visual field.—C. N. Cofer (Brown).

4543. Stein, R. Die Verfolgung bewegter Ziele. (The pursuit of moving targets.) *Arch. ges. Psychol.*, 1939, 105, 1-35.—The experiment was based on earlier work of W. Wirth on the psychophysics of astronomical observations. The stimulus was a broken line, half of which, in the subject's control, was to be joined to the other half, which moved independently. The amount of error is directly related to the speed of the stimulus, and depends on the tendency toward a "personally adequate speed." Fatigue, manual dexterity (in making a turning movement), and fluctuations of attention had to be left out of consideration, although these would doubtless affect, for instance, the aiming of anti-aircraft ordnance. Temporally the greatest error is related to immediate reaction time. The

anticipatory character of the response is emphasized.—H. D. Spoerl (American International College).

4544. Steinbacher, J. Grundsätzliches über das Seelenleben der Vögel. (Basic principles of the bird's psychic life.) *Hippokrates, Stuttgart*, 1939, 10, 1195-1199.—In birds the development of instinctive acts is carried to the limit, and, in complex interplay with acquired processes, determines the entire mode of life. In man, on the contrary, acquired and rational actions have extensively replaced instinctive behavior.—P. L. Krieger (Leipzig).

4545. Stone, C. P. Precocious copulatory activity induced in male rats by subcutaneous injections of testosterone propionate. *Endocrinology*, 1940, 26, 511-515.—By daily injections of 0.62 mg. of testosterone propionate into male rats on and after the ages of 22 to 26 days, the median age of first copulation was set ahead of that of control males by about 20 days. The earliest age at first copulation by an injected male was 29 days; that of an untreated male, 35 days. Probably still earlier copulation may be induced by beginning the injections and the tests somewhat earlier. The pattern of the copulatory act is like that normally appearing in untreated males.—W. J. Brogden (Wisconsin).

4546. Tauber, E. S. Effects of castration upon the sexuality of the adult male. A review of relevant literature. *Psychosom. Med.*, 1940, 2, 74-87.—The author reviews the historical background of castration and summarizes the observations of various investigators on four groups of castrates according to the following classification of the bases for castration: religious (the Skoptsi); sociological (sex offenders, criminals); traumatic (war injuries); medical (genital tuberculosis and malignancies). The most extensive studies have been made on soldiers who had suffered war injuries. Castration does not appear to disturb the sexuality of the adult on a purely biological basis. The importance of the role and close interrelationship of psychic or emotional factors involved in adequate sexual functioning warrants further study before the castrate is adequately understood.—P. S. de Q. Cabot (Simmons).

4547. Tilquin, A. Sur l'orientation de l'Argiope stationnant au centre de sa toile. (On the orientation of the Argiope spider when at the center of its web.) *J. Psychol. norm. path.*, 1939, 36, 93-99.—Argiope, like all spiders which make a more or less vertical web, stays at the center of its web, the longitudinal axis of its body along the vertical diameter, the cephalothorax always turned toward the sun, the abdomen toward the sky. The author performed experiments that show that this orientation is never a function of the position of the web, but depends upon light or gravity or combinations of both.—R. E. Perl (New York City).

4548. Tinbergen, N., & Linde, R. J. v. d. Über die Orientierung des Bienenwolfes (Philaenus triangulum Fabr.). IV. Heimflug aus unbekannten Gebiet. (The orientation of the bee-eater. IV. Return from an unknown region.) *Biol. Zbl.*, 1938, 58, 425-435.—There is a distinct difference in the

ability of the bee-eater to find its nest, depending upon the direction in which the bird is transported. A distance of 1 km. was covered in less than one hour by all subjects when the direction was south-east, their familiar hunting ground; when taken in a southwestern direction, the same distance required more than 2½ hours, and half the number of birds never returned. There is, then, nothing to indicate the possession of a "sense of direction."—(Courtesy *Année psychol.*).

4549. Voss, H. E. *Experimentelle Hervorrufung des Gesanges bei Kanarienvogeln durch männliches Hormon.* (Experimental production of singing in female canaries by male hormones.) *Endokrinologie*, 1940, 22, 399-402.—Intramuscular injection of anertan produces singing in the female canary which closely resembles that of the male. The intensity and perseverance of this reaction is subject to considerable individual differences.—P. L. Krieger (Leipzig).

4550. Wasowski, T., & Hwrynowicz, J. [Modifications of vestibular chronaxy in rabbits under the influence of caloric excitants.] *Polish. Gaz. lek.*, 1938, 17, 250.—Cold or warm water leads to a decrease (unequal) of chronaxy for the three vestibular stimulations (lowering of the head, deviation of the orbit, nystagmus). The order of magnitude of the action varies between 12% and 50%, and is inverse for the two temperature extremes.—(Courtesy *Année psychol.*).

4551. Youmans, W. B. *Bodily states and mental attitudes.* *Ment. Hyg., N. Y.*, 1940, 24, 216-228.—Evidence shows that no intense emotion is unaccompanied by changes in the activity of the involuntary organs. The activity of these organs can be indirectly influenced by a manner of life subject to continual stress. "Normal functioning of the brain depends on a remarkable constancy in the composition and properties of the blood." Sugar and oxygen are necessary for brain functioning. Regulation of body temperature illustrates interdependence between brain and involuntary organs. Rise in body temperature is accompanied by excitement, lowering of body temperature results in depression. The thyroid gland, too, bears a close relationship to the functioning of the brain cells.—P. Brand (New York City).

[See also abstracts 4366, 4367, 4368, 4369, 4373, 4378, 4380, 4400, 4419, 4433, 4436, 4534, 4586, 4621, 4623, 4647, 4654, 4655, 4667, 4681, 4723, 4747, 4806.]

PSYCHOANALYSIS, DREAMS, HYPNOSIS

4552. Bender, H. *Zur Nachuntersuchung des Falles Ilga K.* (A further investigation of the case of Ilga K.) *Z. angew. Psychol.*, 1940, 58, 317-342.—This is a report, by a German committee of psychologists, of another investigation of Ilga K. After subjecting her to various experimental situations, including the use of films and phonograph records, the committee reached a conclusion corroborating that reached by a previous (Latvian) com-

mission—that her performance does not require recourse to the supernatural for an explanation.—G. F. J. Lehner (University of Miami).

4553. Brown, J. F. *Freud's influence on American psychology.* *Psychoanal. Quart.*, 1940, 9, 283-292.—The history of Freud's influence upon American psychology may be divided into three periods: (1) From 1910 to 1920 the interest in Freud centered upon learning what Freudian psychology was and writing expositions of it. (2) From 1920 to 1930, under the influence of behaviorism and later of Gestalt psychology, the psychologist was interested mainly in disproving it or in demonstrating its limitations. (3) From 1930 to date some of the chief tenets and theories of psychoanalysis have worked their way into the body of general and experimental psychology. Each of these periods is discussed. The author then emphasizes the increasing reorganization of academic textbooks to permit the inclusion of dynamic concepts derived from Freud and the increasing collaboration of psychoanalysts and academic psychologists as signifying progress in the development of more precision in psychoanalysis and more vitality in psychology.—M. H. Erickson (Eloise Hospital).

4554. Brunswick, R. M. *The preoedipal phase of the libido development.* *Psychoanal. Quart.*, 1940, 9, 293-319.—In this preliminary attempt at a correlation of the early psychosexual development of the sexes and a description of the earliest level of libido development, extending from birth to the formation of the Oedipus complex, the author systematically and in detail discusses the various steps in libido development and organization, drawing frequent parallels and contrasts between male and female problems in development.—M. H. Erickson (Eloise Hospital).

4555. Dahle, P. *Experimentelle Untersuchungen über das "Gedankenlesen" des lettischen Mädchens Ilga K.* (Experimental investigation of the "mind-reading" of the Latvian girl Ilga K.) *Z. angew. Psychol.*, 1940, 58, 273-316.—This is a report of a commission which met at the University of Riga to investigate the so-called "mind-reading" ability of an illiterate peasant girl 10 years and 3 months of age, with a mental age of 5 (IQ 48). It was believed that there existed between her and her mother (the "sender") telepathic rapport. The conclusion of the investigating committee, after controlled experiments, described by the author, is that her ability is attributable to her highly developed auditory and visual sensitivity and to the closely developed rapport with her mother.—G. F. J. Lehner (University of Miami).

4556. De Voto, B. *Freud in American literature.* *Psychoanal. Quart.*, 1940, 9, 236-245.—The influence of Freud upon American literature, still constantly increasing, is greater than that of any other scientist. Two results already established will be permanent: (1) the enrichment of literature by the development of methods derived from psychoanalysis for portrayal of psychic states, symbolism, unconscious motivation,

emotion, and behavior; (2) an appreciation of the need not only of describing but of understanding experience.—*M. H. Erickson* (Eloise Hospital).

4557. Grelinger, H. *Trois cas de kleptomanie*. (Three cases of kleptomania.) *J. belge Neurol. Psychiat.*, 1940, 40, 105-117.—Case histories are presented of two boys, aged 16 and 17, and of a woman of 53, all of whom had been apprehended for stealing. The psychology of kleptomania is discussed from a psychoanalytic point of view and the relation between the tendency to steal and sexual aberrations is emphasized.—*H. Sys* (Lifwynn Foundation).

4558. Herzberg, A. *Dreams and character*. *Character & Pers.*, 1940, 8, 323-334.—After defining the terms *character* and *dream*, answers to three questions are presented and discussed. (1) Dreams can be characterologically significant. (2) They do allow conclusions as to impressionability, intensity of impulses, after-effects of emotional impressions, and openness or sincerity. (3) They have advantages over other materials. That is, they can reveal qualities not known to the dreamer or appearing in his behavior and they show not only the presence of abstract qualities but the direction in which or objective relative to which the qualities are expressed. However, dream material should always be interpreted in relation to other facts.—*M. O. Wilson* (Oklahoma).

4559. Kahn, S. *Psychological and neurological definitions and the unconscious*. Boston: Meador, 1940. Pp. 219. \$2.00.—This book contains a brief history of Freud's life and of psychoanalysis, an account of the influence of various philosophers on Freud's work, a description of some of the speculations about the subconscious, a glossary of 591 terms common to psychoanalysis, psychiatry, and clinical neurology, and 59 pages of bibliography selected from writings on psychoanalysis, mental hygiene, and educational psychology.—*J. McV. Hunt* (Brown).

4560. Klein, M. *Mourning and its relation to manic-depressive states*. *Int. J. Psycho-Anal.*, 1940, 21, 125-153.—There is a close connection between the testing of reality in normal mourning and the early processes by which the child overcomes his mourning states, and this early mourning is revived whenever grief is experienced in later life. Likewise in abnormal mourning and in manic-depressive states there is a reactivation of the infantile depressive state. The fundamental difference between normal mourning on the one hand and abnormal mourning and manic-depressive states on the other is that the latter conditions fail in their purpose of reality testing and indicate a failure to overcome the early infantile depressive reaction. In normal mourning, while the early depressive reaction is revived, it is again overcome by methods similar to those used by the ego in childhood.—*M. H. Erickson* (Eloise Hospital).

4561. Myers, G. *Freud's influence on psychiatry in America*. *Psychoanal. Quart.*, 1940, 9, 229-235.—

To that American psychiatry based upon a good understanding at a conscious level of the interrelationship between the total personality of the patient and his total environment, Freud has contributed a new and dynamic psychology, a new method of research, a new therapy, and, through the discovery of man's psychosexual development, a new opportunity for the development of a prophylaxis of mental disease.—*M. H. Erickson* (Eloise Hospital).

4562. Patry, A. *Hallucination visuelle consciente chez le vieillard*. Type Charles Bonnet. (Conscious visual hallucination—Charles Bonnet type—in the aged.) *Schweiz. med. Wschr.*, 1939, 69, Pt. II, 1090-1091.—This type of hallucination is neither an ophthalmological nor a psychiatric problem, but a cerebral process, as is proved by the frequent hemianopic disturbances of color vision. Perhaps it is the prodrome of Pick's atrophy (cortical blindness).—*P. L. Krieger* (Leipzig).

4563. Rhine, J. B., Pratt, J. G., Smith, B. M., Stuart, C. E., & Greenwood, J. A. *Extra-sensory perception after sixty years*. New York: Holt, 1940. Pp. xiv + 463. \$2.75.—In the preface the authors state that their intention is to present a complete review of the recent research in ESP and to include in their survey "everything that is of importance to know in deciding whether ESP occurs, and what it is like if it does occur." Parts I and II deal with the question of whether ESP does occur. The successive chapters of Part I present the formulation of the problem, the mathematical and experimental methods used in attempting its solution, a survey of results obtained, and a consideration of the adequacy of some 35 hypotheses proposed as explanations alternative to ESP, these hypotheses being considered first singly and then jointly. Concluding Part I, the authors state that no single hypothesis other than ESP accounts for the evidence and that some of the results remain inexplicable except by the ESP hypothesis. Part II presents a survey of published criticisms and critical comments invited for this volume; these criticisms do not alter the authors' conclusion that "ESP occurs." Part III considers the nature of ESP; the incidence of ESP ability; conditions that affect ESP performance; physical relations of ESP; ESP as a psychological process. Part IV sketches "the outstanding problems that still remain unsolved, the methods under contemplation by which they may possibly be solved, and the further needs and prospects which confront investigators." 21 appendices present more technical and less readable material. A glossary, a list of 361 references, an index of names, and an index of subjects are included.—*G. R. Thornton* (Purdue).

4564. Róheim, G. *Freud and cultural anthropology*. *Psychoanal. Quart.*, 1940, 9, 246-255.—By correlating the customs and taboos of primitive tribes with a dynamic process, that of conflict in the psyche of people practicing them, Freud opened a new and extensive field of research in anthropology

and thus laid a foundation for an understanding of the interrelations of the individual and society as well as of the individual.—*M. H. Erickson* (Eloise Hospital).

4565. Sandström, T. *Ist die Aggressivität ein Übel? Eine psychoanalytische Neuorientierung.* (Is aggressiveness an evil? A psychoanalytical reorientation.) Stockholm: Albert Bonnier, 1939. Pp. 186.—Criticizing the one-sided conceptions of both Freud and Adler concerning the destructive character of aggression, the author maintains that "activity" and "adequate aggressiveness" are beneficial in life, and that too much suppression of aggressiveness might lead to the opposite result—a pathologically increased aggressiveness or other undesirable reactions such as sadism, masochism, etc. Aggression is regarded as a component of the drive for self-preservation. It is maintained that the primary reason for all neuroses is that the individual's self-realization and self-esteem have been disproportionately decreased.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4566. Schilder, P. *The influence of psychoanalysis on psychiatry.* *Psychoanal. Quart.*, 1940, 9, 216-228.—Psychoanalysis introduced into psychiatry a new and dynamic psychology, which changed fundamentally the attitude of the psychiatrist toward his patient, so that the patient ceased to be only a physiological organism possessed of various capacities for psychological functioning and became, in addition, a human personality possessed of psychological problems.—*M. H. Erickson* (Eloise Hospital).

4567. Sharpe, E. F. *Psycho-physical problems revealed in language: an examination of metaphor.* *Int. J. Psycho-Anal.*, 1940, 21, 201-213.—The author discusses the general conditions in which metaphorical speech arises and illustrates her discussion with clinical material. She finds that the metaphor evolves along with the control of bodily orifices; that the metaphor spontaneously used by a patient constitutes an epitome of a forgotten experience; that in metaphor expressing vital emotion, repressed psychophysical experiences are related in the verbal images of the preconscious; that patients' metaphors show a preponderance of images related to pregenital stages and repressed Oedipus wishes; that they give information regarding instinctual tension; and that much clinical information is to be obtained by noting the type of imagery used in metaphors.—*M. H. Erickson* (Eloise Hospital).

4568. Sterba, R. *The problem of art in Freud's writings.* *Psychoanal. Quart.*, 1940, 9, 256-268.—Freud's findings in the field of the psychology of art are concerned principally with the psychodynamics of the art form and with the conditions, possibilities, and mechanisms effecting these dynamic results. Freud's many contributions on this subject, scattered throughout his works, have served greatly to open the entire field of the psychology of art.—*M. H. Erickson* (Eloise Hospital).

4569. Westwick, A. *Criminology and psychoanalysis.* *Psychoanal. Quart.*, 1940, 9, 269-282.—

The author discusses the faults and inadequacies of the historical and present development of criminology, and stresses the value of psychoanalysis as a methodology in the meeting of problems of misbehavior, delinquency, and crime deriving from deep-seated forces and motivations. There is a 21-item bibliography.—*M. H. Erickson* (Eloise Hospital).

[See also abstracts 4321, 4497, 4573, 4591.]

FUNCTIONAL DISORDERS

4570. Altshuler, I. M. *One year's experience with group psychotherapy.* *Ment. Hyg., N. Y.*, 1940, 24, 190-196.—At Eloise Hospital, Michigan, a method of group therapy was instituted which yielded excellent results during the first year. The procedure consisted of the formation of small classroom size groups which met in daily sessions, utilization of the social unity of this group, the application of psychoanalytic disciplines, enlistment of assistance of some patients, and the treatment of patients in their wards with the object of educating attendants and integrating them into the work. Rhythmic drills and music were utilized to arouse the patients. Case histories illustrate the positive results achieved.—*P. Brand* (New York City).

4571. Barach, A. L., & Kagan, J. *Disorders of mental functioning produced by varying the oxygen tension of the atmosphere: I. Effects of low oxygen atmospheres on normal individuals and patients with psychoneurotic disease.* *Psychosom. Med.*, 1940, 2, 53-67.—Two groups of subjects, one of 17 medical students, the other of 9 patients from a mental-hygiene clinic suffering from anxiety neuroses in varying degrees, were submitted to three sets of experimental conditions involving a "retention and recall" test with a manipulation of the degree and onset of oxygen concentration. Observations were made regarding behavior, mood, speech, and subjective complaints. Marked changes in mental functioning and affective behavior were noted with both groups of subjects when exposed to inhalation of low-oxygen atmospheres and with the psychoneurotic patients, who previously experienced anoxia and were later exposed to high-oxygen atmospheres.—*P. S. de Q. Cabot* (Simmons).

4572. Benjamin, E. *Beiträge zur Pathologie der Trotzperiode und ihrer Prognose.* (Contribution to the pathology of the "resistance phase" and its prognosis.) *Z. Kinderpsychiat.*, 1940, 6, 161-169.—A comparison of the results of the psychiatric examinations of 167 American children two to five years old with a group previously studied in Germany. The distribution of different types of symptoms in the boys and girls of both groups is discussed. The author finds no difference in the symptomatology of this phase and concludes that this is independent of culture, race and educational methods. In a certain proportion of these cases, where social factors have entered, the phase has its effects in later periods of childhood. The only child and those with only

one sibling need special watching in this respect.—*D. Shakow* (Worcester State Hospital).

4573. *Billström, J.* Hypnotic treatment of *enuresis nocturna*. *Acta. paediatr., Stockh.*, 1939, 26.—The author recommends analytic hypnosis of varying degrees of depth as treatment in certain types of enuresis.—*D. Shakow* (Worcester State Hospital).

4574. *Bowlby, J.* The influence of early environment in the development of neurosis and neurotic character. *Int. J. Psycho-Anal.*, 1940, 21, 154-178.—A study based upon experience with 150 patients is made of the emotional atmosphere and the personal environment which operate in the earliest years of the child and which appear to influence the development of the child's character and hence may be considered as factors responsible for neurosis. These factors may be divided into two categories, (1) specific events and (2) the general emotional attitude of the mother toward the child. There follows a discussion of these factors, illustrated by case material. The manner in which these environmental factors may influence development is then discussed in general terms.—*M. H. Erickson* (Eloise Hospital).

4575. *Cameron, D. E.* Certain aspects of defects of recent memory in psychoses of the senium. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 987-992.—It was found that in patients suffering from the psychoses of the senium there are a greatly increased tendency to perseverate and a greatly accelerated tendency to secondary elaboration of memorized data. The first process, by interfering primarily with registration, and the second process, by interfering with retention, contribute materially to the impoverishment of recent memory in these patients.—*W. J. Brogden* (Wisconsin).

4576. *Conrad, K., Entres, J. L., Kehr, F. A., Megendorfer, F., & Pohlisch, K.* Die erbliche Fallsucht. Der Erbveitstanz (Huntingtonsche Chorea). Der schwere Alkoholismus. (Hereditary epilepsy. Hereditary St. Vitus' dance (Huntington's chorea). Acute alcoholism.) In *Gütt, A., Handbuch für Erbkrankheiten*. Leipzig: Thieme, 1940. Vol. 3. Pp. 454. RM. 26.—Pohlisch discusses the psychic aberrations in hereditary epilepsy, Conrad the occurrence of feeble-mindedness and psychopathic conditions in the offspring of epileptics. According to Megendorfer, the number of acute alcoholics in Germany is about 125,000. Sterilization cannot be effected as successfully here because the diagnosis of acute alcoholism is more difficult than that of hereditary epilepsy.—*P. L. Krieger* (Leipzig).

4577. *Cotton, H. A., Jr.* The scope and purposes of the state mental-hygiene clinic. *Ment. Hyg., N. Y.*, 1940, 24, 177-189.—State hospitals, by aiding individuals to work out present problems, render more valuable service than by preventing the development of psychoses 10 or 15 years hence. The greatest possibilities are offered in the field of child guidance. It is as important to educate teachers, physicians, nurses, courts, etc., as it is to make

examinations of patients. At present the need can be met through cooperation between clinics and practicing physicians.—*P. Brand* (New York City).

4578. *Cotton, J. M., Lewis, N. D. C., & Egenhofer, A. W.* Vascular bed of the retina in mental disease. *Arch. Neurol. Psychiat., Chicago*, 1940, 43, 891-900.—The cross-sectional area of the vascular bed of the retina was measured in a group of psychiatric patients classified as having either schizophrenia or manic-depressive psychosis. There is no correlation between the capacity of the retinal vascular bed and either of the two diseases studied. No correlation was found between habitus in the Kretschmerian sense and the capacity of the vascular bed. In the schizophrenic group there was a high degree of correlation between the clinical status of the patient and the capacity of the retinal vascular bed. Patients who do not improve or who deteriorate have a small retinal vascular bed in a high percentage of cases. Patients who improve or recover have a significantly larger vascular bed.—*W. J. Brogden* (Wisconsin).

4579. *Courbon, P.* L'involution mentale sénile. (Mental senile involution.) *J. Psychol. norm. path.*, 1939, 36, 76-93.—This is a discussion of the psychological and biological changes that come with age. Aging is not in itself a pathological state any more than is youth, but every physiological condition may be attacked by morbid or traumatic agents. Thus there is a pathology of youth and a pathology of old age. The author discusses the normal signs of senility and the pathology of old age.—*R. E. Perl* (New York City).

4580. *Cuatrecasas, J., & Bula, N. Z.* El lenguaje gráfico en la esquizofrenia. (The graphic language of schizophrenia.) *Bol. Inst. psiquiat.*, 1939, 3, No. 24, 5-27.

4581. *Doll, E. A.* The social basis of mental diagnosis. *J. appl. Psychol.*, 1940, 24, 160-169.—If one agrees "with the premise that the immediate occasion for any mental diagnosis is always some social circumstance, and that the ultimate purpose of such a diagnosis is directed toward the solution of some individual social problem," it follows that "it is not permissible to diagnose mental deficiency in terms of intellectual retardation alone." A person cannot be considered feeble-minded, then, solely on the basis of a low IQ, but his social competence must also be taken into consideration. The Vineland social maturity scale is an instrument which attempts to measure the individual's degree of social competence.—*E. E. Ghiselli* (California).

4582. *Doll, E. A.* Family care of mental defectives. *J. consult. Psychol.*, 1940, 4, 15-16.—See XIII: 2500.—*P. S. de Q. Cabot* (Simmons).

4583. *Dunham, H. W.* Ecological studies of mental disorders: their significance for mental hygiene. *Ment. Hyg., N. Y.*, 1940, 24, 238-249.—A discussion of the historical development of ecological theory and its application in the past and at present to the study of mental disorders. Three of

the findings resulting from a study of ecological aspects of mental disorders are expounded. The significant values of these studies and their role in the preventive program of mental hygiene are discussed. Prerequisites for a mental-hygiene program are indicated.—*P. Brand* (New York City).

4584. **Essen-Möller, E.** Nyare tankegångar inom ärftlighetspsykiatrien. (New thoughts in the psychiatry of heredity.) *Soc.-med. Tidskr.*, 1940, 17, 37-43.—In a lecture at the annual meeting of the Swedish Psychiatric Society, the author gives a critical review of the relationship between inherited dispositions and environment, with special reference to the theory of the hereditary trend in schizophrenia. The author maintains that broadly schizophrenia, in most cases, is dominant, i.e., is transmitted through a single defective gene; the influence of this gene is conditioned by all other inherited dispositions of the individual as well as by the variety of environmental conditions, and does not definitely terminate as classical dementia praecox.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4585. **Fleming, J.** Observations on the use of finger painting in the treatment of adult patients with personality disorders. *Character & Pers.*, 1940, 8, 301-310.—The subjects of this study were seventeen psychotic patients whose diagnoses were distributed among the following categories: anxiety hysteria, conversion hysteria, pathologic personality, obsessive-compulsive neurosis, schizophrenia, and reactive depression. Their ages ranged from sixteen to forty-five years with an average of twenty-five. Special training or experience ranged from grade school to higher studies in art, music or creative writing. Only three had had training in finger painting. The author concludes that, along with free association, word association, ink-blot, storytelling, and play, finger painting offers an outlet for tension and promises to be a valuable medium for enlisting phantasy material of remarkable spontaneity and significance.—*M. O. Wilson* (Oklahoma).

4586. **Freeman, H.** Heat-regulatory mechanisms in normal and in schizophrenic subjects: under basal conditions and after the administration of dinitrophenol. *Arch. Neurol. Psychiat.*, Chicago, 1940, 43, 456-462.—In the chronic stage of the psychosis, schizophrenic patients show less reactivity to metabolic stimulation than do normal subjects.—*W. J. Brogden* (Wisconsin).

4587. **Granet, E.** Total gastrosplasm. *Psychosom. Med.*, 1940, 2, 17-21.—A presentation of a case of acute total gastrosplasm; the patient was a neurotic woman with an over-developed need for independence, whose ego consciously rejected assistance from others. The accumulation of subconscious oral-receptive drives was expressed regressively as a somatic gastric disease. Adequate sedation was followed by relief of subjective symptoms and spasm. Roentgenograms illustrate the article.—*P. S. de Q. Cabot* (Simmons).

4588. **Graves, T. C.** The common cause in the functional insanities. *Brit. med. J.*, 1940, Part I, 608-611.—*W. J. Brogden* (Wisconsin).

4589. **Grosschoppf, E. v.** Seelische Störungen. (Mental disturbances.) Leipzig: J. J. Arnd, 1939. Pp. 104.—The genesis, meaning, treatment and prophylaxis of neuroses are considered.—*D. Shakow* (Worcester State Hospital).

4590. **Hartwell, S. W.** Social psychiatry—our task or a new profession. *Amer. J. Psychiat.*, 1940, 96, 1089-1103.—A discussion of the need for psychiatrists and social workers to determine their future cooperative programs.—*R. Goldman* (Boston Psychopathic Hospital).

4591. **Hendrick, I.** Psychoanalytic observations on the auras of two cases with convulsions. *Psychosom. Med.*, 1940, 2, 43-52.—In a discussion of the relationship of auras to pre-epileptic anxiety attacks shown by two patients the author concludes that "aurae were conscious vestiges of neurotically precipitated anxiety attacks occurring before the onset of seizures" and that as a result of inhibiting the repetition of these attacks "discharge through the central nervous system replaced the discharge of autonomic tension as an anxiety syndrome."—*P. S. de Q. Cabot* (Simmons).

4592. **Jeppsson, L.** Några erfarenheter från tjänstgöring på psykiatriska sjukhus i Schweiz. (Some experiences from service in psychiatric hospitals in Switzerland.) *Soc.-med. Tidskr.*, 1939, 16, 218-223; 1940, 17, 17-20.—A rather detailed account of general conditions, special methods of treatment, etc., in Swiss psychiatric hospitals.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4593. **Kempf, G. A.** Laws pertaining to the admission of patients to mental hospitals throughout the United States. *Publ. Hlth Rep., Wash.*, 1939, Suppl. No. 157. Pp. 29. \$0.05.—This report surveys and analyzes the laws of the several states and makes recommendations for their improvement.—*G. R. Thornton* (Purdue).

4594. **Kihn, B., & Luxemburger, H.** Die Schizophrenie. (Schizophrenia.) In Gütt. A., *Handbuch für Erbkrankheiten*. Leipzig: Thieme, 1940. Vol. 2. Pp. 336. RM. 26.—Kihn discusses the clinical aspects of schizophrenia, including sensory illusions, deterioration of cognition, disintegration and hallucinations of speech, abulia, delusions of various kinds, the relationships between schizophrenia and feeble-mindedness, degenerative psychoses and mixed psychoses, and the artistic production of schizophrenic patients. Luxemburger presents data concerning the hereditary pathological factors in schizophrenia, obtained from a study of 12,000 adult patients.—*P. L. Krieger* (Leipzig).

4595. **Kirkpatrick, M. E.** Directory of psychiatric clinics in the United States, 1940. *Ment. Hyg. N. Y.*, 1940, 24, 252-292.—*P. Brand* (New York City).

4596. **Klaber, R., & Wittkower, E.** The pathogenesis of rosacea: a review with special reference to

emotional factors. *Brit. J. Derm. Syphil.*, 1939, 51, 501-524.—A review of etiological theories of rosacea gives no clue to its origin. 50 unselected patients were studied by a dermatologist and a psychologist, and no substantiation was found for the gastric and septic origin of the disorder. Aggravation and exacerbation were commonly attributed to worry and excitement. 36 patients showed signs of "social anxiety." Abnormal fears and anxieties were traced back to early childhood. In two thirds of the cases the precipitating factor was some emotional trauma. Three psychopathological patterns repeatedly observed were: repressed sexual excitement, repressed aggression, and a repressed need for attention.—*P. S. de Q. Cabot* (Simmons).

4597. **Klingman, T.** The mechanism of the psychoneuroses. *Ann. intern. Med.*, 1939, 13, 677-684.—In the 400 cases studied there was a close relationship between the asthenic and asthenic-athletic habitus and hysteria, psychasthenia, and hypochondriasis; and between the pyknic habitus and neurasthenia, reactive depression, and the anxiety states. The reactions to drugs were antagonistic for the two groups.—*W. J. Brogden* (Wisconsin).

4598. **Kranz, H.** *Erbforschung über den angeborenen Schwachsinn.* (Studies of the hereditary factors in congenital feeble-mindedness.) *Forstchr. Erbpath. Rassenhyg.*, 1940, 4, 1-48.—A summary of 246 German and foreign studies concerning hereditary factors in congenital feeble-mindedness.—*P. L. Krieger* (Leipzig).

4599. **Lowry, E. F.** Pathology of schizophrenia. *Nav. med. Bull., Wash.*, 1940, 38, 193-201.—This article reviews some of the recent literature relating to the pathology of schizophrenia. "Some of these articles appear to make certain definite advancement to our knowledge of the nervous mechanism of the cerebral vascular apparatus, and to add weight to the opinion that the pathology of schizophrenia is organic and that the psychological nature of the psychosis as propounded by the Freudian school is incidental to the operation of the diseased tissues."—*G. R. Thornton* (Purdue).

4600. **Luxenburger, H.** *Die Vererbung der psychischen Störungen.* (The inheritance of psychic disturbances.) In *Bumke, O., Handbuch für Geisteskrankheiten, Erg. Bd., Teil I.* Berlin: Springer, 1939. Pp. 1-133.—Luxenburger gives a comprehensive review of investigations since 1927. The psychosis of the hereditary mental diseases is not the true phenotype, but only the effect on the brain of a somatosis which probably precedes the psychosis. The persistent investigation of this somatosis (secondary phenotype) is the aim of the future. Anlage and environment are found in all hereditary biological phenomena. There is no basic opposition between hereditary and non-hereditary diseases. Uncomplicated hereditary feeble-mindedness and psychopathy are not diseases, but only inferior variants of personality.—*P. L. Krieger* (Leipzig).

4601. **Maier, N. R. F., & Glaser, N. M.** Studies of abnormal behavior in the rat. II. A comparison of

some convulsion-producing situations. *Comp. Psychol. Monogr.*, 1940, 16, No. 1. Pp. 30.—The adequacy of a number of auditory and other stimuli and situations in the production of neurotic behavior is investigated. Auditory stimuli have increased effectiveness when (1) animals are surrounded by barriers and (2) conflict is introduced. Various auditory stimuli are effective, but jingling of keys is most and ringing an electric bell least effective. Quality appears to be more important than intensity. Frequency of attack is dependent upon the individual and the test. With direct stimulation there is a decrease in the frequency of attacks as testing proceeds. This is not a result of adaptation to the stimulus but to "some general adjustment which inhibits attacks." Patterns of attack are classified. Conflict is shown to be important because "the negative card of a discrimination pair was more than twice as likely to produce an attack than was the positive card." The importance of auditory stimuli in producing neurotic behavior is in furnishing an "emotional background for such reactions." Of three possible interpretations of neurotic attacks "conflict between excitation and inhibition" is indicated by the evidence.—*N. L. Munn* (Vanderbilt).

4602. **Maier, N. R. F., Glaser, N. M., & Klee, J. B.** Studies of abnormal behavior in the rat. III. The development of behavior fixations through frustration. *J. exp. Psychol.*, 1940, 26, 521-546.—In these studies rats were forced, by means of an air blast, to choose between two cards in the Lashley jumping apparatus. A study of the persistence of position habits formed under a variety of experimental conditions leads the authors to distinguish between two kinds of fixations. Fixations of one type are products of ordinary mechanisms involved in learning. The other type of fixation is an expression of mechanisms related to abnormalities in behavior. The abnormal fixations result from frustration when frustration designates the state where continued failure causes learning functions to cease operating and other mechanisms of adjustment to begin operating.—*H. W. Karn* (Pittsburgh).

4603. **Malzberg, B.** *Social and biological aspects of mental disease.* Utica, N. Y.: State Hosp. Press, 1940. Pp. iv + 360. \$2.50.—This book presents a statistical analysis of various aspects of mental disease based on the records of admissions to the New York civil state hospitals. The chapter headings are as follows: trends of mental disease in New York State, age and mental disease, mental disease among urban and rural populations, marital status in relation to mental disease, marriage rates among patients with mental disease, mental disease according to nativity and parentage, race and mental disease, mental disease among natives of foreign white parentage, mental disease among Negroes, the incidence of mental disease in relation to birth order, the influence of economic factors on mental health, literacy and mental disease, life tables for patients with mental disease, outcome of

insulin treatment of patients with dementia praecox. A list of references is appended.—*M. Keller* (Yale).

4604. **Marquette, B.** Housing and health relationships re-examined. *Publ. Hlth Rep., Wash.*, 1940, 55, 547-554.—Among other things this article discusses briefly the relation between housing conditions and mental health.—*G. R. Thornton* (Purdue).

4605. **Milisen, R. L.** Mental hygiene of the speech defective. *Ment. Hyg. Rev.*, 1940, 1, 51-55.—"Perhaps the most important mental hygiene aspect of speech defectiveness is the effect on the individual of the attitudes of those about him." Undesirable attitudes of parents are of special importance.—*C. M. Louttit* (Indiana).

4606. **Mouchet, E.** Psicología patológica: caracterología de la esquizofrenia. (Psychopathology: characterology of schizophrenia.) *An. Inst. Psicol. Univ. B. Aires*, 1938, 2, 13-33.—Schizophrenia gives the impression, not of an entity, but a group, within which it is impossible even to establish precise subgroups. Mouchet regards it as a constitutional disease with gradations from normal schizothymia to schizophrenic dementia accompanied by cerebral lesions. The provisional characterological definition of the entire type is introversion plus asyntonia. All the schizophrenic's peculiarities are entirely consistent with his world. Mouchet discusses the meanings of mutism; ideas of influence; autism; ambivalence, which ranges from a spirit of contradiction to negativism; and, as a blanket protection, inattention and forgetfulness. Everything which contributes to inhibitions makes schizothymics appear cold, disaffected, and inferior to their actual capacities; but behind the apparent emotional blunting is intense psychic dysesthesia. The essence of schizophrenia is not a split between ideas and emotions, but between the vital-instinctive and rational-social spheres. Perception does not imply action; hence a lack of spontaneity, a sterile rationalism, depersonalization, and unreality feelings. Schizothymia gives a characteristic coloring to artistic, literary, and scientific productions. *R. M. Rilke* is discussed in this connection.—*M. E. Morse* (Baltimore).

4607. **Munro, T. A.** Consanguinity and mental disorder. *Eugen. Rev.*, 1938, 30, 219. Also *Brit. med. J.*, 1938, Part 2, 145.—Abstract of a paper given at the Royal Medico-Psychological Association meeting. Consanguineous parentage occurs more often among psychotic patients than among patients afflicted with bodily disease. A group of 152 psychotic patients with consanguineous parents showed more schizophrenia than did a similar group born to parents who were not related. Also, relatives of the patients in the consanguineous group revealed more cases of neurosis and psychopathic personality. The chance of mental disorder increases with blood proximity to the patient. Among the consanguineous parents of patients were some atypical psychotic cases.—*G. C. Schwesinger* (American Museum of Natural History).

4608. **Norton, H. J.** Medical practice and mental hygiene. *Ment. Hyg. Rev.*, 1940, 1, 47-50.—A practicing physician points out the value of a mental-hygiene point of view in medical work.—*C. M. Louttit* (Indiana).

4609. **Oberndorf, C. P.** The psychogenic factors in asthma. *N. Y. St. J. Med.*, 1935, 35, 41-48.—An analysis of a case of asthma showed that the patient suffered from an emotional conflict centered in a repressed desire for love from her mother, which led to the asthmatic attacks. When she found an outlet for her emotions in violent outbursts the asthma disappeared. A conflict between aggressive masculine and passive feminine tendencies was indicated, with the respiratory disorder associated by the patient with masculinity.—*P. S. de Q. Cabot* (Simmons).

4610. **Osipov, V. P.** [Questions of norm and pathology in psychiatry.] *Trud. Inst. Isuch. Mozga Bekht.*, 1939, 11, 106-116.—In diagnosing the presence of a mental disease we should determine the qualitative and quantitative changes of the normal personality; and when stating the degree of recovery we must do it in terms of the disappearance of psychotic and qualitative manifestations. Therefore the definition of the term and idea of "norm" and "normal" must be worked out in psychiatry.—*A. Yarmolenko* (Leningrad).

4611. **Pearson, G. H. J.** Some psychological aspects of inflammatory skin lesions. *Psychosom. Med.*, 1940, 2, 22-33.—A presentation of three cases in two of which the patients irritated and injured inflammatory skin lesions as a childish auto-erotic reaction. This level of behavior is explained on the basis that the patients were unable to experience adequate social relationships and emotional reactions, and in both cases fear was a basic mechanism. The third patient, because of fear of her super-ego associated with a fear of social disapproval and of her mother, solved her emotional difficulties by converting the problem into an itching skin lesion. The solution of the emotional problems in all three cases resulted in a cessation of the irrational behavior of the first two patients and a cure of the lesions of the third.—*P. S. de Q. Cabot* (Simmons).

4612. **Penrose, L. S.** Genetical problems and mental deficiency. *Eugen. Rev.*, 1938, 30, 219. Also *Brit. med. J.*, 1938, Part 2, 145.—Abstract of a paper given at the Royal Medico-Psychological Association meeting. Mental defect in Huntington's chorea, epiloia, neurofibromatosis, and some types of oxycephaly might be traced to Mendelian factors, incompletely dominant and variably expressed. Some mild types of mental defect appear to result from incomplete dominance of genetic factors. A union of two mildly defective mates sometimes produces severe defect. In some congenitally defective strains, heredity is significantly aided by environment to produce mental impairment; for congenital syphilis, encephalitis, and cerebral trauma, environment causes the impairment. When the affliction originates in the prenatal period, the

environmental effect is not so easily traceable. In mongolism, and less so in anencephaly, hydrocephaly, and spina bifida, etiology is related to the age of the mother.—*G. C. Schwesinger* (American Museum of Natural History).

4613. **Petrén, A.** Böra indikationerna verkligen vara desamma för frivilligt ingående a sinnessjukhus som för tvångsintagning å sådant genom vårdattest? (Should indications really be the same for voluntary entrance to mental hospitals as for incarceration by force to such through medical attestation?) *Soc.-med. Tidskr.*, 1940, 17, 53-57.—In relation to a special case in which the author helped an alcoholic to voluntary placement in a mental hospital, at the same time refusing to give him medical attestation for forced incarceration, the writer discusses the therapeutic implications of the two measures.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4614. **Poliakova, M. S.** [Mechanisms of memorizing in psychoneurotics.] *Trud. Inst. Izuch. Mozga Bekht.*, 1939, 11, 117-124.—Efficiency in memorizing and reproduction is determined by the attitude of the patient. In hysterical patients an affective attitude connected with subjective tendencies was observed. In neurasthenics the mental attitude is also emotional, but the subjective-affective moments coincide with the objective conditions of the task. This different influence of the volitional-affective attitude explains the difference of the memory process in hysteria and neurasthenia.—*A. Yarmolenko* (Leningrad).

4615. **Pollock, H. M., & Malzberg, B.** Hereditary and environmental factors in the causation of manic-depressive psychoses and dementia praecox. *Amer. J. Psychiat.*, 1940, 96, 1227-1244.—The investigations were directed to the study of two sets of factors: one is found in the familial histories of the patients and the other deals with the effects of certain biopsychological experiences upon the individual. Neither dementia-*praecox* nor manic-depressive psychoses appears in frequencies that are in accord with the requirements of simple Mendelian inheritance. However, it does seem highly probable that there is a generalized familial basis for mental disease. Hereditary and environmental factors cannot be spoken of as antithetic causes of mental disease. The personality, the environment, and inheritance or family background must all be considered as causes.—*R. Goldman* (Boston Psychopathic Hospital).

4616. **Queen, S. A.** The ecological study of mental disorders. *Amer. sociol. Rev.*, 1940, 5, 201-209.—This article is a summary and discussion of the various research projects completed and in progress which are devoted to the distribution of mental disorder between various types of area in large cities. It is found that mental patients are not evenly distributed through a city. For different disorders both the degree and locale of concentration are varied. Correlations with various other measurable characteristics of urban areas have been established.—*I. L. Child* (Harvard).

4617. **Reese, H. H., Lewis, N. D. C., & Sevringhaus, E. L.** The 1939 year book of neurology, psychiatry, & endocrinology. Chicago: Year Book Publishers, 1940. Pp. 784. \$3.00.—Summaries are given of more than 450 articles from over a hundred different periodicals, published in this country and abroad, presenting concisely the new and important developments in neurology, psychiatry, and endocrinology. Throughout the book the editors of the sections intersperse comments correlating various advances with clinical problems. Of particular interest is the increasing consideration given by all three fields to experimental procedures as contrasted with direct clinical therapeutic measures in investigative work.—*M. H. Erickson* (Eloise Hospital).

4618. **Rennie, T. A. C.** The role of personality in certain hypertensive states. *New Engl. J. Med.*, 1939, 221, 448-456.—Five groups of patients marked by an interrelationship between varying degrees of hypertension and personality problems are examined. A study of the personality showed life-long instability expressed by easy depression and anxiety accompanied by perfectionism, great ambition, and an abnormal attention to bodily symptoms. Resentment was the outstanding emotional pattern. Psychotherapy includes convincing the patient of the relation between his anxiety and his symptoms. Training in a proper balance between work and recreation is also needed.—*P. S. de Q. Cabot* (Simmons).

4619. **Rennie, T. A. C., & Fowler, J. B.** Follow-up study of five hundred patients with schizophrenia admitted to the hospital from 1913 to 1923. *Arch. Neurol. Psychiat.*, Chicago, 1939, 41, 877-891.—*W. J. Brogden* (Wisconsin).

4620. **Richter, H. G.** Some observations on anancasm. *Amer. J. Psychiat.*, 1940, 96, 1459-1467.—"The term 'anancasm' communicates a number of concepts which deal with compulsive, obsessive and phobic ways of experiencing." Under the term anancasm the following descriptive phases of behavior are included: excessive orderliness, meticulousness, exaggerated need for cleanliness, pedantry, dependence on rituals, etc. Anancasms are stabilizers for many insecure, tense, ambivalent, hostile, and dependent people and are means of protecting oneself against a hostile world. When practiced by a group, anancasms become socially acceptable and lose the emotional charge of anancasms. Anancasms are constructive or non-constructive and can, under emotional distress or situational strains, change from one type to the other. Case histories are cited.—*R. Goldman* (Boston Psychopathic Hospital).

4621. **Rujka, T.** Beiträge zu den biologischen Grundlagen des Zusammenhanges zwischen reflektorischer Immobilisation und Angstzuständen. (Contributions to the biological bases of the relation between reflex immobilization and anxiety states.) *Riv. Biol.*, 1938, 26, 317-342.—Anxiety states in man and immobilization in animals are manifestations of identical biological processes.

Similar conditions cause these two phenomena, the influence of associations is essential in both, and both serve the biological function of discharging energy from the organism when it is saturated with stimulation.—(Courtesy *Année psychol.*)

4622. Rylander, G. *Den svenska lagstiftningen om äktenskap, sterilisering och abortprovokation, i vad den rör psykiska sjukdomstillstånd.* (The Swedish law concerning marriage, sterilization, and induction of abortion in so far as it concerns psychiatric conditions.) *Soc.-med. Tidskr.*, 1940, 17, 4-14.—In this lecture before the Karolinska Institutet the author gives a critical review of the Swedish laws now in effect, and those suggested, concerning marriage, sterilization, and abortion in connection with mental diseases.—M. L. Reymert (Mooseheart Laboratory for Child Research).

4623. Saenz, L. N. *La coca. Estudio médico social de la gran toxicomanía peruana.* (Coca: socio-medical study of the great Peruvian drug addiction.) Lima: Imprenta de la E. de la G. C. y P., 1938. Pp. 237.—The book, a monograph presented for a medical doctorate, gives a very complete, comprehensive history of the drug coca, the prevalence of its use, and its physiological and psychological effects. The author attempts an explanation of the mechanism of the drug action, and suggests therapy for the addiction.—J. E. Bader (Letchworth Village).

4624. Sarlin, C. N. *The dissection of a neurotic personality.* *Ment. Hyg.*, N. Y., 1940, 24, 197-209.—The neurotic individual, though often of superior intelligence, shows a definitely childish emotional response. A case history is given in which a psychoanalysis of a neurotic individual is made and interpreted. Analyses should be conducted only by those who have been analyzed, since others cannot objectively and without prejudice correctly interpret human behavior.—P. Brand (New York City).

4625. Scheid, F. *Die psychischen Störungen nach Hirnverletzungen.* (Psychic disturbances following brain injuries.) In Bumke, O., *Handbuch für Geisteskrankheiten*, I. Teil (Erg. Bd.). Berlin: Springer, 1939. Pp. 248-279.—P. L. Krieger (Leipzig).

4626. Schuler, R. V. *Some aspects of eugenic marriage legislation in the United States. II. Mental incapacity.* *Social Serv. Rev.*, 1940, 14, 301-316.—A discussion of present laws dealing with the marriage of feeble-minded and insane persons. A comprehensive statute is proposed which includes provision for the services of qualified persons in the diagnosis of mental incapacity.—G. S. Speer (Child Guidance Service, Springfield, Ill.).

4627. Staabs, G. v. *Einfluss der Menses auf Psyche und Soma bei Geistesgesunden und Kranken.* (Influence of menstruation on the psyche and soma of mentally normal and psychotic women.) *Psychiat.-neurol. Wschr.*, 1939, 41, 387-394; 401-404.—The author defines a menstrual psychosis as a symptom complex arising like a foreign body in the

personality of women who have shown no previous mental abnormalities. The symptoms are determined by the anlage. It shows no preference for any particular age group and does not change the nucleus of the personality. The beginning and end coincide with the menses. The cause is not reaction to an experience, but an immediate endogenous effect.—P. L. Krieger (Leipzig).

4628. Stenberg, S. *Reflektioner kring ett fall av homosexualitet.* (Reflections around a case of homosexuality.) *Soc.-med. Tidskr.*, 1939, 16, 205-212.—The detailed case history of a homosexual man before Swedish courts and authorities, with reference to the changes in the laws under preparation in Sweden concerning homosexuals.—M. L. Reymert (Mooseheart Laboratory for Child Research).

4629. Stockert, F. G. v. *Einführung in die Psychopathologie des Kindesalters.* (Introduction to the psychopathology of childhood.) Berlin: Urban & Schwarzenberg, 1939. Pp. 192. RM. 12.—P. L. Krieger (Leipzig).

4630. Strauss, A. A., & Kephart, N. C. *Behavior differences in mentally retarded children measured by a new behavior rating scale.* *Amer. J. Psychiat.*, 1940, 96, 1117-1124.—The paper is designed to determine whether or not measurable differences in behavior exist between the endogenous and exogenous types of mental retardation. The scale discussed is a "check list by which there can be elicited from the rater a controlled description of the child's behavior." Pairs of descriptive trait names describing behavior in regard to mood, social relations, and activity were chosen. Differentiation of the two groups was shown by the scale. The exogenous group were shown to be erratic, uncoordinated, uncontrolled, uninhibited and socially unaccepted. "This study suggests that behavior problems occurring in endogenous retarded children are completely apart from the commonly accepted picture of organic behavior."—R. Goldman (Boston Psychopathic Hospital).

4631. Strauss, H., Rahm, W. E., & Barrera, S. E. *Studies on a group of children with psychiatric disorders. I. Electroencephalographic studies.* *Psychosom. Med.*, 1940, 2, 34-42.—Clinical and electroencephalographic observations were made on 44 children admitted to the Children's Service of the New York State Psychiatric Institute for intensive study. The average age was 8.7 years and the average IQ 92.6. Five types of electroencephalograms were obtained, 68% of which were abnormal. A basic disturbance on a physiological level was indicated, suggesting further intensive study directed toward somatotherapy to supplement the usual psychotherapeutic methods. Some discussion is given to a division of epileptoids on the basis of electroencephalographic findings.—P. S. de Q. Cabot (Simmons).

4632. Sullivan, H. S. *Conceptions of modern psychiatry: the first William Alanson White Memorial Lectures.* *Psychiatry*, 1940, 3, 1-117.—This

series of 5 lectures constitutes a comprehensive survey of modern psychiatric thought. Lecture I, "Basic Conceptions," treats of historical considerations, and the problems of participant observation, empathy, autism, the origin of the self, and developmental stability. Lecture II, "The Human Organism and Its Necessary Environment," deals with problems of the infant's world, the role of language, pre-adolescence, anxiety and education, the expanding of the personal world, and multiple integrations. Lecture III, "Developmental Syndromes," treats of adolescence, sexual inhibitions, zones of interaction, observation and inference. Lecture IV, "Explanatory Conceptions," covers parataxic integrations, emotional states, physiological states, theories of memory, substitution, panic, hallucinosis, mannerisms, sublimation, and schizophrenic experience and reactions. Lecture V, "Therapeutic Conceptions," covers the many problems involved in therapy and therapeutic results. There is a total of 77 footnote annotations.—*M. H. Erickson* (Eloise Hospital).

4633. Vedder, R. Over het copieren van eenvoudige geometrische figuren door oligophrenen en jonge kinderen. (The copying of simple geometric figures by feeble-minded and young children.) Amsterdam: N. V. Noord-Hollandsche Uitgevers Maatschappij, 1939.—A psychopathological and developmental study of errors and spatial factors in the copying of designs as found in young children, high-grade feeble-minded and persons with brain lesions.—*D. Shakow* (Worcester State Hospital).

4634. Waller, J. V., Kaufman, N. R., & Deutsch, F. Anorexia nervosa: a psychosomatic entity. *Psychosom. Med.*, 1940, 2, 3-16.—A description and analysis of the clinical syndrome of anorexia nervosa, accompanied by two case histories. Generally three primary symptoms exist: reaction to food, constipation, and amenorrhea. Psychological factors determining the etiology of the syndrome are not general, but constitute a specific constellation with the symbolization of fantasies of pregnancy involving the gastro-intestinal tract. In discussing the case illustrations the authors note that the compulsive ritualistic behavior is related to deep psychological mechanisms. It is suggested that family pressures with complementary neurotic conflicts played an important role.—*P. S. de Q. Cabot* (Simmons).

4635. Weiss, I. I. A mental hygiene clinic in action. *Ment. Hyg. Rev.*, 1940, 1, 35-39.—Describes the personnel and work of the child guidance clinic.—*C. M. Louttit* (Indiana).

4636. Williams, V. P. Medical progress: psychiatry. *New Engl. J. Med.*, 1940, 222, 452-456.—*W. J. Brogden* (Wisconsin).

4637. Witmer, H. L. Psychiatric clinics for children: with special reference to state programs. New York: Commonwealth Fund; Oxford Univ. Press, 1940. Pp. xix + 437. \$2.50.—The author presents a comprehensive survey of psychiatric clinics for children as they have been conducted under the auspices of state hospitals, psychopathic

hospitals, and central departments of state governments, analyzing the advantages and disadvantages which result from these several auspices in bias and training of the staff, relation to patients and local agencies, and type of case most often treated. She describes also the psychiatric theories involved and their effect on method and objective. From the study emerge five prerequisites for effective service: The function of a clinic must be clearly defined. The staff must be adequately trained. Traveling clinics must adapt to non-metropolitan situations and not rely on local workers for treatment. Clinics should be conducted under auspices which enhance the likelihood of their being accepted and used by the public. No clinic can succeed until a community affords resources for improving a patient's environment or until the professional public understands how to use the help it offers.—*M. Lee* (Chicago).

[See also abstracts 4362, 4372, 4385, 4389, 4428, 4494, 4527, 4532, 4560, 4561, 4566, 4641, 4646, 4650, 4653, 4691, 4700, 4730, 4737, 4743, 4745, 4750, 4778, 4791, 4807, 4813, 4815.]

PERSONALITY AND CHARACTER

4638. Eckert, R. G., & Keys, N. Public speaking as a cue to personality adjustment. *J. appl. Psychol.*, 1940, 24, 144-153.—An individual's characteristics as a speaker, measured by ratings by competent judges, are more correlated with intelligence-test scores than with scores on the Bernreuter and Bell personality inventories.—*E. E. Ghiselli* (California).

4639. Endara, J. Psicodiagnostico de Rorschach y delincuencia: clasificación de las respuestas. (Rorschach's test and delinquency: classification of answers.) *An. Inst. Psicol. Univ. B. Aires*, 1938, 2, 207-252.—The Rorschach test picks out immediately the normal person, educated and uneducated, and the mentally abnormal; but beyond that, responses are conditioned by the individual's experience and geographical origin. Endara studied the protocols (5000 responses) of 200 prisoners in the National Penitentiary of Ecuador as an introductory investigation of the norm for the uneducated Latin-American. Obviously abnormal subjects were excluded. Practically all the subjects were rural or urban manual laborers. The uneducated mentality, particularly the rural, is very deficient in perception of form and consequently in its interpretation. Surprisingly, the countryman's perception of nature is very passive and limited and without affect, which produces a characteristic stereotypy in interpretations of forms. Endara's results differ considerably from those of Salas (Spain). The responses are given in tabular form, but without a summary or general conclusions. He considers the Rorschach test very valuable in situations where the usual psychological resources are lacking.—*M. E. Morse* (Baltimore).

4640. Günther, H. R. G. Das Problem des Sichselbstverstehens. (The problem of self-understanding.) Berlin: Junker & Dünhaupt, 1938.

Pp. 244. RM. 12.—A contribution to the philosophy of personality.—G. F. J. Lehner (University of Miami).

4641. Harrower-Erickson, M. R. Personality changes accompanying cerebral lesions: I. Rorschach studies of patients with cerebral tumors. *Arch. Neurol. Psychiat.*, Chicago, 1940, 43, 859-890.—The Rorschach records of patients with cerebral tumors differ markedly from normal Rorschach records. These records of tumor patients are interpreted to show a restricted and constricted personality. The location of the lesion was not an important factor. Differences in Rorschach records for patients with different tumor locations were less than differences of any of the records from normal records.—W. J. Brogden (Wisconsin).

4642. Hattingberg, H. v. Die Bedeutung der polaren psychologischen Typen für die Verständigung. (The meaning of opposite psychological types for understanding personality.) *Gesundh. u. Wohlf.*, 1939, 19, 379-391.—The extraversion-introversion contrast has immediate relations to the polaric possibilities of neurotic development: hysteria-extraversion, obsession neurosis - introversion. Practical utilization of types, however, is subject to limitations and relativity. The type contrast recurs within the type, i.e., one of the two dominates as the basic attitude of consciousness, while the other finds compensation in the unconscious. This holds also for the position of a person in a group. Thus extraversion and introversion are only relative in an individual or a group. Type is less substantial than character; it is only a direction. On the basis of an article by Rivière, Hattingberg depicts the polarity of the French and German character.—P. L. Krieger (Leipzig).

4643. Kupky, O. Zur Wesens- und Charakterkunde des deutschen Menschen. (German nature and characterology.) *Z. pädag. Psychol.*, 1940, 41, 49-61.—Kupky discusses German qualities and their origins, the contradictory estimations of German character by other nationals, and the historical reasons for the differences between the English and German character. Germany has never been really known or appreciated. The English were originally lower Saxon, but admixture of Viking blood ruined the delicate Saxon intuition and there developed a beserk will, a hard egotism, selfrighteousness, insularity, mere practicality, and brutal belligerence. Their one contribution to civilization has been the idea of individualistic freedom. The Germans, meantime, grew gentler because of the necessity of adapting to neighboring peoples, and developed a higher freedom, i.e., personal surrender to a strong state. The chief characteristic of the German soul is its powerful but slow and emotionally determined will, combined with abstract phantasy, which dominates the intellect. Its basis is subjectivism, contrast and synthesis, formlessness, and metaphysical puzzling. Reaction against these weaknesses causes what other nations regard as militarism, meticulousness, and

double-dealing (a struggle within the German soul). The German can be understood only through his attitudes toward nature, work, fighting, the folk, and the eternal.—M. E. Morse (Baltimore).

4644. McCurdy, H. G. Literature and personality analysis of the novels of D. H. Lawrence. Part II. *Character & Pers.*, 1940, 8, 311-322.—These two studies (see XIV: 4183) demonstrate the validity of the hypothesis that the personality of an imaginative author is projected into his literary creations. The results may be summarized thus: (1) There is a close correlation between personality traits revealed in Lawrence's novels and the overt behavior in his own family group. Early family influences may exert their effect upon even an author's latest writings as well as being primarily responsible for his creativity in the first place. (2) The analyses yield suggestions as to psychosexual development and the resolution of conflict within Lawrence's personality. Three methods of reducing tensions of conflict are found in his characters, namely, identification, isolation, and destruction. It is recognized that the writings of only one author are treated in this series. Therefore, other similar studies are needed to substantiate the results and to treat problems not found in Lawrence's writings. Numerous references are cited.—M. O. Wilson (Oklahoma).

4645. Mira, E. Myokinetic psychodiagnosis: a new technique of exploring the conative trends of personality. *Proc. R. Soc. Med.*, 1940, 33, 9-30.—In myokinetic psychodiagnosis the subject is asked to make a set of linear movements with pencil on paper in the three fundamental directions of space. Both quantitative and qualitative data are obtained from the linear drawings. Differences between the corresponding measures in both hands are considered relevant in indicating the degree of cohesion of the personality. Various values of the direction and degree of shifting of successive linear drawings are taken as being indicative of "nervous equilibrium," degree of elation or depression, and amount and direction of aggressiveness.—W. J. Brogden (Wisconsin).

4646. Mountford, E. G. An experimental study of some German type theories. *Character & Pers.*, 1940, 8, 271-280.—Using a technique previously used by Kroh, an experimental attempt was made to test the validity of Kretschmer's personality types. Seventy-four schizophrenic and manic-depressive patients were examined in experimental situations designed to give measurements of their preference for form or color, their span of apprehension, spread of attention, and perseverative tendencies, which are expected to reveal crucial differences between the two types. Only four of the resulting *r*'s are above .10 and the highest of these is only .35. The significance of the data is further reduced by the lack of adequate measures of reliability of the test situations. Hence, the author urges caution in using tests as measures of temperament.—M. O. Wilson (Oklahoma).

4647. Wyss, W. H. v. *Das Auge als Ausdrucksorgan.* (The eye as an organ of expression.) *Schweiz. med. Wschr.*, 1939, 69, Pt. II, 1026-1028.—The dynamics, the impulse of self-direction (eye movement) are always decisive as a sign of psychic activity. The strength of the gaze holds in an almost physical manner and reflects the emotional play and peculiarity of a personality.—P. L. Krieger (Leipzig).

[See also abstracts 4350, 4618, 4620, 4624, 4648, 4707, 4716, 4790.]

GENERAL SOCIAL PROCESSES (incl. Esthetics)

4648. Baker, M. C. Factors which may influence the participation in physical education of girls and women 15-25 years of age. *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 126-131.—The data in this study were obtained by the questionnaire method from 1150 female subjects between the ages of 15 and 25. The habits of physical activity are found to change as the girls mature, with a tendency toward becoming less strenuous and more vicarious. The factors apparently producing these changes are of both physical and social origins. "The heterogenous character of the activity patterns fosters a conclusion that the voluntary activity habits of girls and women are largely unpremeditated."—F. W. Finger (Brown).

4649. Baldwin, R. C. The meeting of extremes in recent esthetics. *J. Phil.*, 1940, 37, 348-358.—"If esthetic value is not simply a feeling, it is also not an actually existent metaphysical attribute in or on the object independent of the subject," so in esthetic theory neither an extreme subjectivism nor an extreme objectivism is tenable. Both the esthetic object and the esthetic experience have a proper place in the analysis of esthetic value and this is being recognized in modern esthetic theory.—J. H. Jackson (Brown).

4650. Barber, V. Studies in the psychology of stuttering. XVI. Rhythm as a distraction in stuttering. *J. Speech Disorders*, 1940, 5, 29-42.—18 adult stutterers were required to read speech materials under 15 different conditions of rhythmic distraction in controlled situations. Gross bodily rhythms, speech rhythms, and rhythmic sensory stimulations were used as distractions. Results show that all the rhythms used acted as effective distractions, i.e., reduced the number of stuttering spasms. The author concludes that, since certain distractions reduce it, stuttering is not basically a phonetic difficulty. An understanding of the mechanism of distraction would lead to the discovery of the basic nature of stuttering itself. Further lines of investigation are suggested.—C. V. Hudgins (Clarke School).

4651. Becker, H. Constructive typology in the social sciences. *Amer. sociol. Rev.*, 1940, 5, 40-55.—The usefulness of constructing type concepts, intermediate between the purely specific and the perfectly

general, in sociology is defended.—I. L. Child (Harvard).

4652. Bird, C. *Social psychology.* New York: Appleton-Century, 1940. Pp. xiii + 564.—A text planned specifically to meet students' interests as indicated by answers to questionnaires given in social-psychology courses. The primary concern is with "social behavior which has yielded to measurement or to some form of objective expression, as well as with principles having explanatory value and based upon controlled investigation." Social psychology is considered as the study of the relationships arising as individuals interact with each other and with the stimulus objects constituting the social situation. 14 chapters include an introduction in which 6 pages deal with statistical concepts, and chapters on motivation, social incentives, measurement of social attitudes and applications of attitude measurement, imitation, suggestion, suggestibility and stereotypes, propaganda, behavior of crowds, leadership, social significance of age, juvenile delinquency, and psychological aspects of war. Each chapter presents an organization of findings of selected experimental studies followed by a section in which the author brings together in summary form the conclusions drawn from those studies. Selected bibliographies are given at the ends of the chapters.—D. L. Glick (Brown).

4653. Bosch, G. *El delirio y la tragedia de Alonso Quijano.* [Cervantes.] (The delirium and tragedy of Alonso Quijano.) *An. Inst. Psicol. Univ. B. Aires*, 1938, 2, 177-206.—Bosch gives a sketch of Cervantes' life and episodes from *Don Quixote* to prove his thesis that the knight was a serious representation in fantasy of the author himself, who showed paranoid traits. From childhood he lived in poetic fantasy, dreaming of high lineage and surrounding his real origins with mystery. He had personal courage, constancy, desire for sacrifice, ideals of platonic love and intellectual liberty, the dignity of life, and opposition to hate, injustice and slavery. His paranoid characteristics were egotism, suspicion, perfectionism, ideas of influence, a feeling of triumph, and magical thought. *Don Quixote* is an excellent description of the "monomania" (Esquirol) which reigned in Europe after the Crusades, and it depicts the idealism of chivalry after chivalry itself had died out. Shortly before death Cervantes returned to objective reality; he allowed himself to be robbed of his ideal of *Don Quixote*—and that was his tragedy.—M. E. Morse (Baltimore).

4654. Bracken, H. v. *Untersuchungen an Zwillingen über die Entwicklung der Selbständigkeit im Kindesalter.* (Studies of the development of independence in twins during childhood.) *Arch. ges. Psychol.*, 1939, 105, 217-242.—The study involved 21 pairs of twins from 4 to 13, 14 pairs being identical. (21 criteria of identity were used.) They were investigated by means of the Doll scale for social competence, and parents and others were consulted on the items of the scale. Differences within pairs

of twins were found only for fraternal twins; in general the scale was found very suitable. The most notable developmental defect was retardation in twins of subnormal intelligence.—*H. D. Spoerl* (American International College).

4655. **Bracken, H. v.** *Untersuchungen an Zwillingen über die quantitativen und qualitativen Merkmale des Schreibdrucks.* (Investigations with twins concerning quantitative and qualitative characteristics of handwriting pressure.) *Z. angew. Psychol.*, 1940, **58**, 367-384.—With the use of Kraepelin's writing scale the handwriting pressures of 42 pairs of twins between the ages of 8 and 41 years were determined. Pressure differences for identical and non-identical twins showed no hereditary determination. However, it was found that the average pressure for the dominant member of a pair was higher. Qualitative differences were found which seem to be attributable to hereditary factors.—*G. F. J. Lehner* (University of Miami).

4656. **Britt, S. H.** *Review of current social psychology.* *Psychol. League J.*, 1940, **4**, 5-10.—Papers of interest to social psychologists which were published in 1939 and 1940 and which dealt with (1) psychoanalysis, (2) clinical techniques, especially play therapy, (3) environmental influences in relation to the IQ, (4) problems of human interaction, especially studies of leadership, (5) the social psychology of attitudes and attitude measurement, and (6) analyses of legal problems are reviewed. 36 references.—*C. N. Cofer* (Brown).

4657. **Clothier, F.** *The social worker in the field of adoption.* *Ment. Hyg., N. Y.*, 1940, **24**, 210-215.—The social worker must be objective in her contacts with clients. She must be open-minded and must combine sound training and knowledge with intuition and a social code. Her success in the field of adoption depends on her personality, her inner needs, and the feelings she has to project, aided by techniques, training, and experience.—*P. Brand* (New York City).

4658. **Cohen, E., & Witmer, H.** *The diagnostic significance of Russian Jewish clients' attitudes toward relief.* *Smith Coll. Stud. soc. Work*, 1940, **10**, 285-315.—The authors attempt to isolate cultural and personality factors involved in the attitudes of Russian Jewish clients toward requesting and accepting financial assistance, and to show how understanding of these attitudes may assist case workers in making social diagnoses. The reason for the selection of Russian Jewish clients was the unusual homogeneity in the religious ideology and the general cultural background. Their investigation shows that clients who are well adjusted adhere to the teachings and ideals of their culture, while those who are maladjusted disregard or overemphasize their culture's ideals. This latter group shows rather demanding, hostile, and dependent attitudes and lacks initiative and practicability in plans for re-establishing independence. The authors conclude that the chief value of their findings is in the diagnostic criteria they imply.—*K. S. Yum* (Chicago).

4659. **Croft, A. E.** *The ability of relief children.* *Amer. social. Rev.*, 1940, **5**, 185-192.—In a representative midwestern city (Wichita) the high-school grades and intelligence-test scores of children from families on relief were compared with those of the high-school population at large. The distribution of letter grades is slightly lower in the relief children. The median IQ is 5 points lower than for the total population (102 instead of 107). The ratio of grades to IQ is slightly higher in the relief children. These findings leave open the possibility that there may be on the average a slight biological inferiority in relief families, but demonstrate that if there is such an inferiority it is much too slight to justify any social policy which would treat relief families as a basically inferior class. In general, however, the author is inclined to feel that the slight average differences that are found are due to cultural factors.—*I. L. Child* (Harvard).

4660. **Eagleson, O. W., & Taylor, L. E.** *A study of chord preference in a group of Negro women.* *J. exp. Psychol.*, 1940, **26**, 619-621.—Negro college women were requested to judge the pleasantness of 12 chords played on the piano. These data were compared with judgments obtained from white college women. The Negro subjects preferred the following chords in order from the most to the least pleasing: triad, minor third, minor sixth, major sixth, fifth, fourth, major third, octave, major second, minor seventh, major seventh, and minor second. Judgments of the white and negro subjects were identical as to the four chords that should be ranked least pleasing, but there was little agreement between the two groups as to which chords were the most pleasing.—*H. W. Karn* (Pittsburgh).

4661. **Froeschels, E.** *Laws in the appearance and the development of voice hyperfunctions.* *J. Speech Disorders*, 1940, **5**, 1-4.—Methods of diagnosis and tables representing the frequency of hypertension of the laryngeal muscles causing voice disorders are presented. Six types of hyperfunction are described. The method of diagnosis is acoustic. "The well-trained ear of the examiner obtains an impression of unphysiological and unhygienic working and probably some investigators thus get a synesthetic sensation in their own corresponding muscles."—*C. V. Hudgins* (Clarke School).

4662. **Gallup, G., & Rae, S. F.** *The pulse of democracy: the public-opinion poll and how it works.* New York: Simon & Schuster, 1940. Pp. viii + 335. \$2.50.—The authors describe the general nature of current public-opinion polls and place them against an historical background of problems of democracy from the time of Bryce's American Commonwealth with its discussions of American public opinion. Various misconceptions of polling methods are discussed, and an appendix of 28 pages gives sample returns. There is a brief bibliography.—*W. S. Hunter* (Brown).

4663. **Goldstein, M. A.** *Speech without a tongue.* *J. Speech Disorders*, 1940, **5**, 65-69.—Three clinical cases are described in which "oral speech that is

understandable and quite distinct as to articulatory nicety" was developed following total amputation of the tongue. Clinical records of the three cases are presented. The author concludes that the tongue is not indispensable as an organ of articulation; that various parts of the mouth may replace it; and that our knowledge of the physiology of the tongue as an organ of speech needs much revision.—*C. V. Hudgins* (Clarke School).

4664. Groves, E. R., & Groves, G. H. *Sex in marriage*. (2nd ed., rev.) New York: Emerson Books, 1940. Pp. 250. \$2.00.—See VIII: 1396.

4665. Hahn, E. F. A study of the relationship between the social complexity of the oral reading situation and the severity of stuttering. *J. Speech Disorders*, 1940, 5, 5-14.—52 adult stutterers were required to read a selection of prose (550 words) in several different social situations. Results show that stutterers experience difficulty while reading alone, but the frequency of stuttering increases 94% when the subjects read before an unseen audience. This frequency increases still more when the subjects are required to read before a group of visible auditors. The variations in the number of spasms are affected to a greater extent by individual differences than by differences in social complexity of the situation.—*C. V. Hudgins* (Clarke School).

4666. Halbwachs, M. *Morphologie sociale*. (Social morphology.) Paris: Librairie Armand Colin, 1938. Pp. 208. 15 fr.—This is an exposition of certain aspects of human social behavior according to the principle suggested by Durkheim: the facts generally studied in demography express the morphology of the social structure, the concrete results of social interrelations. This viewpoint is illustrated by a consideration of religion, politics, and economics. In the same light the writer interprets the vital statistics of France.—*F. W. Finger* (Brown).

4667. Hermann, E. *Messungen an Handschriftproben von Zwillingspaaren unter 14 Jahren*. (Measurements of handwriting samples of pairs of twins less than 14 years old.) *Z. Psychol.*, 1939, 147, 238-255.—80 samples of handwriting were obtained from 10 identical and 10 fraternal pairs of twins between the ages of 7:10 and 13:7. These samples were measured for writing angle, length of stroke, and width of letter base. With increased speed of writing, the last two measures increased generally, while the writing angle became smaller. Individual differences in writing angle were greater among fraternal than among identical twins, which was true also of the changes in the length of strokes and the angles of short letters when the speed of writing increased, indicating that hereditary factors may be operative. In each case the dominant twin's writing angle was more inclined than that of the recessive one.—*H. Beaumont* (Kentucky).

4668. Himes, N. E. *Your marriage: a guide to happiness*. New York: Farrar & Rinehart, 1940. Pp. 448. \$3.75.—This book offers a non-technical discussion of some of the economic, psychological, sexual, and social factors affecting adjustment and

happiness in marriage. Practical advice is combined with general discussion in a wide range of topics, including premarital sex relations, mate selection, the engagement, predicting marital happiness, sex life in marriage, the art of love, birth control, child adoption, budget-making, life insurance, consumer protection, buying versus renting, the use of credit, etc.—*D. R. Riggs* (Burlington, Vt.).

4669. Katura, H. [The great resemblance between 7-5 syllable-meter in Japanese versification and Chinese 7-word poetry.] *Jap. J. Psychol.*, 1940, 15, 72-74.—*R. Kuroda* (Keijo).

4670. Lindner, T. Om aggressivitet och aggressionshämningar, särskilt med hänsyn till kriget som destruktiv samhällsföreteelse, i belysning av några historiska fall. (On aggressiveness and aggression blockings, with special reference to the war as a destructive social phenomena, in the light of some historical cases.) *Soc.-med. Tidskr.*, 1940, 17, 32-36.—Referring to the book by Sandström, "Is Aggressiveness an Evil?" (see XIV: 4565), the writer offers several examples from history of aggressors, such as Frederick the Great, Hitler, etc.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

4671. Lundberg, G. A. The measurement of socioeconomic status. *Amer. sociol. Rev.*, 1940, 5, 29-39.—In a New England village investigators scored 219 homes on the Chapin social-status scale. Without the use of the Chapin scale, ratings of the "socio-economic status" of these same families were made separately by two members of the community, a banker and a janitor. The agreement between these two raters and between each of them and the scale was rather high, and the instances of marked discrepancy are considered in detail. Using this scale as an example, the author then considers the general problem of the meaning of a scale. He defends the applicability of ordinary arithmetical procedures to social and psychological scales and defends the thesis that conformity of a scale with the findings of common sense is not in any way a necessary criterion of its validity.—*I. L. Child* (Harvard).

4672. Lundholm, H. *Logic and beauty*. *Character & Pers.*, 1940, 8, 281-291.—Using mathematics as illustrative of the nature of logic, the author analyzes the points of similarity and difference between logic and esthetics. They are similar in that: (1) their relata are abstract; (2) there is lawful consecutiveness in the progress of each; and (3) neither is concerned with reality, that is, with the truth or falsity of its propositions. They differ in that esthetics contemplates and integrates the affective as well as the conceptual experience, while logic is concerned only with the latter. Several references are cited.—*M. O. Wilson* (Oklahoma).

4673. Macfarlan, D. Speech hearing and speech interpretation testing. *Arch. Otolaryngol.*, Chicago, 1940, 31, 517-528.—*W. J. Brogden* (Wisconsin).

4674. Mayer, G., & Schneickert, H. *Die wissenschaftlichen Grundlagen der Graphologie*. (The scientific foundations of graphology.) (3rd ed.)

Jena: Fischer, 1940. Pp. 166. RM. 8.00.—*M. E. Morse* (Baltimore).

4675. Merton, R. K. *Fact and factitiousness in ethnic opinionnaires.* *Amer. sociol. Rev.*, 1940, 5, 13-28.—Attitude scales of the Thurstone type are discussed, and a study of the author of attitudes toward the Negro is used as an illustration. The scales are criticized in detail for the fallacies involved in their assumption that attitude is being measured along a linear continuum, and for various psychological and sociological inadequacies. The author suggests using the opinionnaires in a less dubious manner, as for example by considering the frequency of endorsement of particular statements by different groups of subjects.—*I. L. Child* (Harvard).

4676. Nakamura, K. *Kachi to shikô. Shinriga-kuteki kenkyû.* (Value and thinking. A psychological study.) Tokyo: Ganshōdō Shoten, 1939. Pp. 183. Y 1.80.—The book consists of two parts: theories of value and some problems of thought. As for the former, the standpoints of the Graz school founded by Brentano, such as are found in Meinong, v. Ehrenfels, Kreibitz, Störing, and others as representatives of psychological theories of value and those of the Vienna circle including Schlick, Menger, Dubislav, and Kraft are treated as a prelude to dynamic psychological theories of the Gestalt school, to which the author belongs. The latter is considered under such headings as plasticity of meaning, the relation between perception and thought, constancy in thought, natural law, especially causal law and concept of logical function in the Vienna circle. Throughout the entire volume the viewpoint of the Gestalt school, in particular those of Wertheimer, Köhler, Köhler, Lewin, and others, is expounded in great detail; the book is written to explain how value and thought in general are to be explained in terms of configuration.—*R. Kuroda* (Keijo).

4677. Oppel, V. V. [The kinetic speech of the deaf.] In [Deaf-mutes and deaf]. Leningrad: 1936. Pp. 135-212.—There exists no kinetic speech, or so-called "mimetics," of deaf-mutes. There is only the kinetic speech of the deaf, who have lost their hearing in various stages of speech development. The kinetic speech of the deaf, like all other speech forms, is not static, but develops according to general laws. Thus it is impossible to investigate abstract kinetic speech; only a concrete complex of speech of a concrete collective group can be used. A kinetic dictionary of the deaf and a comparative analysis of the dynamic evolution of this dictionary are given.—*A. Yarmolenko* (Leningrad).

4678. Rubin-Rabson, G. *The influence of age, intelligence, and training on reactions to classic and modern music.* *J. gen. Psychol.*, 1940, 22, 413-429.—24 phonographic recordings which could be classified as classical, transitional, and modern, and which with two exceptions had been in standard orchestral repertoires for 20 years or more, were selected. 70 adult men and women, 20 to 70 years of age, of above average intelligence, recorded their reactions

on a scale of 1 (extreme dislike) to 5 (extreme liking). Each record was played two minutes. The subjects were tested to determine their musical training. "The reaction of the group is most favorable to the most familiar, diminishing in proportion as increasing distortion of the familiar obscures recognizable melody and form . . . liking follows the chronological line of musical development." Age was correlated positively with indifference to the modern and classic styles; persons with training showed greater preference for modern music than did those without it. "Intelligence is somewhat higher among those indifferent to the classic type; somewhat lower among those indifferent to modern music."—*C. N. Cofer* (Brown).

4679. Schoen, M. *The psychology of music.* New York: Ronald, 1940. Pp. vii + 258. \$3.25.—A book of eleven chapters. These deal with the psychology of tone, the varieties of musical effects, types of musical and esthetic experience, music aptitudes and their tests, the psychology of artistic singing and the growth of musical powers. One hundred twenty four studies in the psychology of tone and music are discussed. An additional bibliography of 264 titles is offered for more extensive reading.—*P. R. Farnsworth* (Stanford).

4680. Sletto, R. F. *Pretesting of questionnaires.* *Amer. sociol. Rev.*, 1940, 5, 193-200.—When a very large group of people is to be circularized with a questionnaire, it may be profitable to pretest the questionnaire with a smaller group in order to make it as efficient and as likely to be answered as possible. The procedure followed in one such case is described in detail. Among the findings were that a 35-page questionnaire was answered almost as often as one of 10 pages, and that postal cards were as effective as letters in making a follow-up request.—*I. L. Child* (Harvard).

4681. Thelen, E. *Zuordnungsversuche an Schriftproben von Zwillingen.* (Matching experiments with samples of the handwriting of twins.) *Z. Psychol.*, 1939, 147, 215-237.—This study involves handwriting samples of 25 pairs of twins: 5 identical and 5 fraternal over 14 years of age, 10 identical and 5 fraternal under that age. Three samples were obtained from each subject under different conditions, and 6 judges were given the task of matching the samples of each pair. Success in this task constituted the measure of similarity. To guard against chance factors, Vernon's contingency coefficient was used. The results showed correlations as follows: identical pairs over 14, $R = .82 \pm .024$; fraternal over 14, $R = .56 \pm .078$; identical pairs under 14, $R = .57 \pm .054$; fraternal under 14, $R = .54 \pm .081$. This suggests the hypothesis that hereditary factors in handwriting become more pronounced after the age of 14. Matching was most successful when based on the characteristics of individual letters, moderately accurate when based on general features like neatness, least successful when taking into consideration graphologically significant characteristics.—*H. Beaumont* (Kentucky).

4682. Tumlriz, O. *Das Leib-Seelenproblem in der Rassenpsychologie.* (The mind-body problem in race psychology.) *Z. Rassenk.*, 1940, 11, 5-16.—P. L. Krieger (Leipzig).

4683. Vié, J. *Fondements biologiques de la compréhension mutuelle.* (Biological bases of mutual comprehension.) *Gesundh. u. Wohlf.*, 1939, 19, 357-368.—P. L. Krieger (Leipzig).

4684. Williamson, A. C., & Remmers, H. H. *Persistence of attitudes concerning conservation issues.* *J. exp. Educ.*, 1940, 8, 354-361.—Rural and urban high school students were measured, with reference to their attitudes toward five conservation issues, one day prior to and immediately following the administration of stimulus material designed to change the average attitude of the group in a premeditated direction. The attitudes were measured with comparable forms of the same scale after one month, four months, and eight months. Analysis of the data lead to the following conclusions; (1) Attitudes of high school pupils toward certain conservation issues can be significantly changed in a desired direction. (2) Attitudes of high school pupils toward certain conservation issues, having been changed by defined stimulus material, tend to persist as changed after a lapse of as much as eight months. (3) The attitudes of the group are generally less homogeneous after presentation of stimulus material than before. (4) The rural group tends to be less affected on the average by the stimulus material than the urban group.—H. W. Karn (Pittsburgh).

4685. Wittlich, B. *Handschrift und Erziehung.* (Handwriting and education.) Berlin, Leipzig: Teubner, 1940. Pp. 115. RM. 2.40.—Wittlich studied the handwriting of German youths according to L. Klages' principles as follows: for 6 qualities of endowment (developmental capacity, versatility, capacities for enthusiasm and expression, social feeling, and emotional depth); for 5 tendencies (ambition, concentration, endurance, self-consciousness, and self-control); and one relational quality (memory). This short schema requires little time, is adapted to group testing in schools, and to statistics, since the 12 points, and only these, can be combined into a guiding constellation.—P. L. Krieger (Leipzig).

4686. Wortis, S. B. *Unsuccessful sex adjustment in marriage.* *Amer. J. Psychiat.*, 1940, 96, 1413-1427.—A report of a round table discussion at the 95th annual meeting of the American Psychiatric Association. The discussants were endocrinologists, gynecologists, urologists, anthropologists, marriage counsellors and psychiatrists.—R. Goldman (Boston Psychopathic Hospital).

4687. Yarmolenko, A. V. [The changes of respiration in preschool stutterers.] *In* [The disorders of speech in children]. Leningrad: 1940. Pp. 26-34.—Speech movements are the highest form of complex motor integration. Disintegration of it produces stuttering and stammering speech. Pneumokymograms of stutterers show the changes

of respiration during their speech as well as without speech. Logopedic treatment decreases these respiratory disorders, but they can be observed on pneumokymograms even after their disappearance from vocal speech.—A. Yarmolenko (Leningrad).

4688. Yarmolenko, A. V. [The forms of speech in deaf blind children.] *Vop. surdopedag.*, 1940, 281-291.—The variations of six forms of verbal speech and a seventh form (kinetic speech) used by a group of deaf blind children and the conditions and factors defining their use are described and analyzed. Some examples of children's letters and compositions are added.—A. Yarmolenko (Leningrad).

4689. Zbinden, H. *Zur psychologischen Grundlegung des Friedens.* (The psychological basis of peace.) *New Commonw. Quart.*, 1938, 4, 177-188.—While the idea of collective security assumes that the deepest human yearning is for peace and order, in reality people not only desire security but also possess an irrational instinct for struggle and change. This instinct is not to be confused with the instinct for war. The instinct for struggle does not disappear in higher cultures, but plays an ever greater role in creative work. Increased freedom and higher standards of living have increased the vitality of people, which, with growing unemployment and times of greater need, creates a stock of unused energy. Outer, observable unemployment is accompanied by an inner, unperceivable unrest. This situation gives rise to unorganized masses without purpose or leadership, easily swayed by demagogues, and leads to communism, facism, and increased probability of war.—D. L. Glick (Brown).

[See also abstracts 4343, 4418, 4448, 4461, 4483, 4533, 4556, 4564, 4567, 4568, 4605, 4616, 4626, 4722, 4723, 4761, 4785, 4795, 4816, 4818.]

CRIME AND DELINQUENCY

4690. Cantor, N. *The social treatment of the adult offender.* *J. crim. Law Criminol.*, 1940, 31, 30-37.—Crime is a problem of individual personality and social institutions. The personality aspects can be approached by proper parole and probation supervision. Instead of maintaining purely formal relations to the offender, parole and probation officers should establish relations of confidence, by using the techniques of the psychiatric social worker, in order to solve the offender's emotional conflicts.—L. Hanks (Illinois).

4691. Fairbairn, W. R. D. *The psychological factor in sexual delinquency.* *Ment. Hyg., Lond.*, 1939, 5, 44-50.—Instead of classifying sexual delinquency into the two unscientific categories of offenses involving normal sexual behavior under anti-social conditions, and offenses in which the sexual act is inherently perverse either from its own nature or that of the sexual object, attention should be given to the problem of psychosexual development as a means to a criterion of sexual delinquency. On this basis sexual delinquency is found to arise from a failure of psychosexual development involv-

ing the persistence (1) of infantile sexual trends, (2) of an infantile choice of sexual objects, and (3) of a sadistic type of sexuality acquired in infancy. However, the majority of individuals with arrested psychosexual development control their behavior by (1) repression and projection, (2) the conscience, and (3) the ego. Hence the sexual delinquent is probably an individual with an additional defect in ego development precluding control of persistent infantile sexual impulses.—*M. H. Erickson* (Eloise Hospital).

4692. Gillin, J. L., & Hill, R. L. **Success and failure of adult probationers in Wisconsin.** *J. crim. Law Criminol.*, 1940, 30, 807-829.—A study was made of 28 factors in relation to success or failure among 2,819 adult probationers in Wisconsin by statistical methods (correlation and contingency) and individual case records. Factors predictive of success were employment during probation, continuation of previous type of job and residential stability while on probation, married status, absence of previous criminal record, type of occupation (proprietary or skilled being most favorable), older age, ownership of property, and shortness of sentence. Suggestions are made for future research in probation.—*L. Ackerson* (Chicago, Ill.).

4693. Glueck, S., & Glueck, E. **Juvenile delinquents grown up.** New York: Commonwealth Fund, 1940. Pp. viii + 330. \$2.50.—*One Thousand Juvenile Delinquents*, published by the same authors in 1934, summarized the careers of 1000 male delinquents during a 5-year period following treatment by the Boston Juvenile Court. The present volume continues the study of these same offenders for an additional 10-year period. An important finding is that both recidivism and the number of serious crimes committed show a significant decrease in successive follow-up periods. The subsequent conduct of the delinquents is analyzed with respect to a number of determining factors and the relationships discovered are used to form a table for predicting the behavior of delinquents following treatment. The various peno-correctional methods to which the delinquents were subjected are considered in detail. Typical kinds of behavior occurring after each method of treatment are discussed and offenders who succeeded or failed under each regime are compared. 8 prediction tables were constructed from which the probability of success with different methods may be estimated from a knowledge of certain data regarding the individual, his family, and social background. The data are presented in extended tabular form in an appendix.—*A. Chapanis* (Child Guidance Study, Franklin, Tenn.).

4694. Hanks, L. M., Jr. **Preliminary for a study of problems of discipline in prisons.** *J. crim. Law Criminol.*, 1940, 30, 879-887.—A comparison was made of 100 state prisoners committed to "solitary punishment" with the general prison population, and with 100 matched prisoners who had never been so disciplined. The disciplinary cases tended to come from urban environment, to be single, to be

younger, to be "property offenders," and to give a larger number of unfavorable responses on the Woodworth psychoneurotic inventory than the control groups.—*L. Ackerson* (Chicago, Ill.).

4695. Kelchner, M. **Motive jugendlicher Rechtsbrecher.** (Motives of juvenile delinquents.) *Dtsch. JugHilfe.*, 1939, 31, 1-11; 59-66; 105-109; 151-166.—The groups of motives are: want; pleasure in possession; wish to give presents; love of adventure; playing tricks; "acting big"; revenge; anger; obstinacy; sexuality; and being easily led. About one fourth of the cases were poorly endowed. The environment in half the cases was unfavorable (more influential in the case of girls than of boys). Specific adolescent traits, such as vivacity, eagerness, impulsiveness, and lack of resourcefulness, were prominent in all cases.—*P. L. Krieger* (Leipzig).

4696. Levin, Y. **The treatment of juvenile delinquency in England during the early nineteenth century.** *J. crim. Law Criminol.*, 1940, 31, 38-54.—Relevance of social factors and recognition of role of juveniles in crime was already present in 19th century England. Societies recommended and subsequently established reformatories to keep youth free from contamination by elder criminals. Private philanthropists provided recreational facilities for children, improved slum conditions and removed children from homes deemed improper. As these endeavors to reduce crime became more dependent upon public funds, the state gradually assumed total responsibility.—*L. Hanks* (Illinois).

4697. Montalta, E. **Jugendverwahrlosung.** (Juvenile delinquency.) Zug, Switzerland: Kalt-Zehnder, 1939. Pp. 232. RM. 3.80.—After discussing the causes and treatment of juvenile delinquency, Montalta takes up the situation in Switzerland, with statistics. Classified bibliography of 1500 items from the Swiss literature.—*M. E. Morse* (Baltimore).

4698. Okkels, H. **Om legal kastration.** (Concerning legal castration.) *Ugeskr. Laeg.*, 1940, 102, 287-294.—A critical evaluation of the Danish law pertaining to sex crimes after ten years of operation. The rise in the proportion of this type of offenses to total crimes draws attention to the fact that the offenders must be regarded as socially dangerous patients rather than as ordinary criminals. Mere incarceration over a stipulated time does nothing to solve the problem. The law provides that between the time of conviction of the crime and the pronouncement of sentence a decision be reached regarding castration. In most cases the offenders willingly submit when the advantages of the operation are explained to them; if they do not the court may rule, on the recommendation of the medico-legal expert, that the operation be performed. The latter decision is rarely taken (8 cases in 190) and only for very flagrant offenses. The law has more than fulfilled the expectations. The patients treated have been rendered practically asexual and non-criminal with no detriment to health. Those who were not feeble-minded or psychopathic have been rendered

socially useful individuals, although before the operation 50% were recidivists.—*N. J. Van Steenberg* (Iowa).

4699. Schneickert, H. *Kriminaltaktik mit besonderer Berücksichtigung der Kriminalpsychologie*. (Criminal tactics, with especial regard to criminal psychology.) Berlin: Springer, 1940. Pp. 293. RM. 15.60.—The author deals with simulation and its unmasking, the will and the mode of thinking of the criminal, and the last stage of his determination; also of truth, lies, and mass psychology.—*P. L. Krieger* (Leipzig).

4700. Simmons, S. M. Some clinical approaches in penology. *J. crim. Law Criminol.*, 1940, 30, 865-878.—The functions of the staff members of the penal clinic are discussed. The investigator prepares the social and criminal history of the inmate. The psychologist contributes ratings of intelligence, skills, aptitudes, interests, and personality make-up. The psychiatrist investigates the presence of mental and nervous pathology and may assume the psychiatric care of special inmates. Other factors discussed are mental and emotional conflicts, social institutions, economic stresses, community disorganization, and rehabilitative influences and resources.—*L. Ackerson* (Chicago, Ill.).

4701. Spirer, J. Negro crime. *Comp. Psychol. Monogr.*, 1940, 16, No. 2. Pp. 64.—The author first presents a critical review of the literature on the intelligence, personality, and cultural backgrounds of Negroes. He then analyzes data from the records of the Western State Penitentiary and the United States Bureau of the Census. This analysis discloses that "the Negro has a higher commitment rate than the White for every specific type of crime, and that this rate cannot be entirely accounted for by any one of the following factors: (a) the presence of proportionately more males in the Negro population than in the white; (b) the presence of proportionately more males in the crime committing ages in the Negro population than in the White; (c) the presence of out of state Negroes in the Pennsylvania Negro population; (d) the concentration of Negro population in industrial areas." The author does not, on the other hand, attribute the higher incidence of Negro crime to biological inferiority. He believes that we have insufficient evidence to support such a view. While cultural possibilities are discussed, the author does not commit himself to this type of explanation. No alternative explanations are suggested. Bibliography of 110 titles.—*N. L. Munn* (Vanderbilt).

4702. Stout, J. The treatment needs of an unselected group of juvenile delinquents. *Smith Coll. Stud. soc. Work*, 1940, 10, 316-351.—An analysis of the treatment needs of juvenile delinquents suggests that an effective preventive and therapeutic program could be instituted without any very great changes in the resources of a community which would be within the grasp of any city. The addition to the probation office's staff of a trained case worker who would act as a kind of intake

supervisor would provide consultation services to the parents as well as to the delinquent children and would refer them to the appropriate agencies for assistance.—*K. S. Yum* (Chicago).

4703. Sukov, M. The long-term prisoner. A study of thirty men completing life sentences. *Amer. J. Psychiat.*, 1940, 96, 1321-1334.—Thirty murderers who had each served a minimum of twenty consecutive years in prison and who had adapted well to the environment were interviewed. Progressive social severance (letters, visits, etc.) were found with imprisonment. There was little modification of the basic interests of these men in regard to religion, crime, and intellectual spheres. Punishment was felt to be justified, but the given sentences were too severe. There was a universally expressed desire for freedom; but it is doubtful if an extramural adjustment would be made. Most subjects were friendly and without antagonism to society.—*R. Goldman* (Boston Psychopathic Hospital).

4704. Sutherland, E. H. White-collar criminality. *Amer. sociol. Rev.*, 1940, 5, 1-12.—The author reviews the nature and frequency of criminal behavior among men in business and professions, and concludes: "The theories of the criminologists that crime is due to poverty or to psychopathic and sociopathic conditions statistically associated with poverty are invalid because, first, they are derived from samples which are grossly biased with respect to socioeconomic status; second, they do not apply to the white-collar criminals; and third, they do not even explain the criminality of the lower class, since the factors are not related to a general process characteristic of all criminality. A theory of criminal behavior which will explain both white-collar criminality and lower class criminality is needed. An hypothesis of this nature is suggested in terms of differential association and social disorganization."—*I. L. Child* (Harvard).

[See also abstracts 4569, 4628, 4639, 4798.]

INDUSTRIAL AND PERSONNEL PROBLEMS

4705. Achilles, P. S. Report of the activities of the Psychological Corporation—1939. *J. appl. Psychol.*, 1940, 24, 109-121.—The work of the Psychological Corporation in the following fields is described: "Market and Social Research—dealing with problems in the fields of selling, advertising and public opinion. Industrial and Personnel Research—dealing with problems pertaining to production, personnel and management. Clinical Work—under title of the Psychological Center and the Child Adjustment and School Service Division—rendering psychological examining and counseling services to schools and individuals on educational, vocational and personal problems. Testing Service for Schools of Nursing—affording facilities to schools of nursing throughout the country for testing applicants for admission and for participating in selection research. Test Division—serving as a publishing, sales, ad-

visory, and research agency for psychological tests and materials." The sources of income and the expenditures of the Corporation are summarized.—*E. E. Ghiselli* (California).

4706. **Bellows, R. M.** The status of selection and counseling techniques for dental students. *J. consult. Psychol.*, 1940, 4, 10-16.—A review of studies dealing with the predictive value of tests for selecting dental students. The various revisions of the Iowa Dental Qualifying Examination have been applied successfully in different localities. The author describes a tentative battery of 34 predictor items selected for an experimental try-out at the Baltimore College of Dental Surgery of the University of Maryland.—*P. S. de Q. Cabot* (Simmons).

4707. **Bergen, H. B., Haines, C. E., Giberson, L. G., Hallock, F. L., & Coler, C. S.** Attitudes and emotional problems of office employees. *Off. Mgmt Ser.*, No. 87. Pp. 34.—Factors responsible for low morale among employees are: salary inequalities, lack of confidence in the fairness of promotion procedures, poor supervision, and lack of proper employee education. The extent to which these exist can best be discovered by the attitude questionnaire. Employee morale can be strengthened by the recognition of basic employee needs: attention, consideration, fair treatment, consistency, understanding, setting a proper example, and giving opportunity for self-expression. Emotional problems among employees may have their roots in high blood pressure, presenility, alcoholism, nervous exhaustion, emotional immaturity, or lack of knowledge of personnel policies. Some of these problems may be avoided by concerted efforts at arousing interest in personnel policies among employees: providing information centers and encouraging their use, distributing periodical bulletins on company practices, and organizing a conference training program.—*H. Moore* (Armour Institute of Technology, Chicago).

4708. **Cobb, P. W.** The limit of usefulness of accident rate as a measure of accident proneness. *J. appl. Psychol.*, 1940, 24, 154-159.—The liability to accident of a given automobile driver may be said to depend upon two sets of factors, those related to him such as aptitude as a driver and the distance he drives, and those unrelated to him, "which we may call luck." The best driver-testing system can predict the first but not the second set of factors, since they are determined by chance. Any group of drivers selected by this best possible testing system, then, would show a chance or Poissonian distribution of accidents. One mathematical property of the Poissonian distribution is that the variance is equal to the mean. If a sample of drivers is "separated into a number of classes, each of equal liability within itself, these classes will constitute" a series of "true Poissonian distributions." "The weighted means of these classes will be the mean of the whole sample. And the weighted mean of the variances within the classes will also . . . be equal

to the mean of the whole sample. But this weighted mean variance will also be the variance from the regression line, which when added to the variance due to regression is identical with the variance of the whole sample." Knowing the variance due to regression when the best possible predictive instrument of accident liability is used, then, the validity of that best possible instrument can be estimated.—*E. E. Ghiselli* (California).

4709. **Drake, C. A.** Accident-proneness: a hypothesis. *Character & Pers.*, 1940, 8, 335-341.—Tests used in this study fell into two groups, perceptual and motor. An accident index was derived for each subject by the formula, *A. I. equals number of accidents times severity divided by length of service in months*. It was found that *A. I.* was low or zero when perception scores were higher than motor scores, and, conversely, it was high when perception scores were lower than motor scores. That is, accident-proneness arises out of a relationship of factors rather than out of a single factor. Several references are cited.—*M. O. Wilson* (Oklahoma).

4710. **Hancock, J. W.** An experimental study of four methods of measuring unit costs of obtaining attitude toward the retail store. *J. appl. Psychol.*, 1940, 24, 213-230.—Four methods of obtaining responses to a questionnaire dealing with attitudes toward retail stores were compared: mailed questionnaire with no reward for filling it out and returning it, mailed questionnaire including 25¢ to be kept by the respondent, mailed questionnaire with the promise that 25¢ would be sent the respondent if he returned the questionnaire filled out, and personal interview questionnaire. Differences in terms of cost per unit of returns and in terms of differences in responses are discussed.—*E. E. Ghiselli* (California).

4711. **Heinzler, A.** Volksschulleistung, Eignungsprüfung und handwerkliche Berufstüchtigkeit. (Common-school performance, vocational fitness, and skill as handworker.) *Arch. ges. Psychol.*, 1939, 105, 162-216.—A study of 123 apprentices in one metal-working plant. School grades in subjects bearing on the industrial work showed a closer relationship to work performance than did school grades in general, and the degree of relationship was according to the excellence of these grades. There was also a close relationship, for all ranges, between aptitude and trade tests. Manual dexterity is of greatest importance. Selected character traits were also rated. On the physical side, "vitality" seemed more important than such measures as chest capacity, etc. As a group the apprentices compared very favorably with other employees.—*H. D. Spoerl* (American International College).

4712. **Luckiesh, M., & Moss, F. K.** Boldness as a factor in type-design and typography. *J. appl. Psychol.*, 1940, 24, 170-183.—The readability of many commonly used type faces can be increased better by increasing the boldness than by changing the configuration.—*E. E. Ghiselli* (California).

4713. **Munson, G., Saffir, M. A., & Chamness, H. U.** An objectified practical test for clinical psychol-

ogists. *J. educ. Psychol.*, 1940, 31, 215-222.—The test, which was developed in the Bureau of Child Study of the Chicago Public Schools and consists of 11 parts requiring a half day to administer, is described. No experimentally obtained index of validity is as yet available.—*R. M. Bellows* (Maryland).

4714. *Paterson, D. G.* Applied psychology comes of age. *J. consult. Psychol.*, 1940, 4, 1-9.—This is the presidential address delivered at the 1939 annual meeting of the A. A. A. P. and is chiefly a survey of the development of applied psychology.—*P. S. de Q. Cabot* (Simmons).

4715. *Stott, M. B.* The relation between intelligence and proficiency in Binet-Simon testing. *Brit. J. educ. Psychol.*, 1940, 10, 135-142.—Judgments by two supervisors on a 5-point scale of efficiency in the administration of the Binet-Simon scale achieved during a training course by 106 subjects carefully selected by reason of their educational qualifications were compared with group intelligence-test scores obtained by these students. While the general level of intelligence of the group was exceptionally high, within the range of ability indicated there is evidence of a tendency for the average intelligence-test score to decrease with a decline in testing proficiency. There is some further indication that this relationship between intelligence and testing proficiency is not limited to the early stages of training, but obtains after further practice in the administration of the Binet tests to at least 30 children.—*R. C. Strassburger* (St. Josephs College).

4716. *Super, D. E.* Personality and mechanical aptitude. *Occupations*, 1940, 18, 593-595.—"The relationship between emotional stability and the performance of simple manual tasks under observation needs to be clarified." Super found no significant relationships between scores on the Bernreuter B1-N and several tests of mechanical aptitude. These findings were considered inconclusive, but served to bring up several points for discussion.—*H. Schlosberg* (Brown).

4717. *Webber, A. J.* Interviewing. *Social Secur. Bull.*, 1940, 3, No. 4, 11-16.—Although interviewing is an art, and each person must develop his own methods, it is possible to give a few helpful hints. People do what they want to do, within the limits of the situation; and they do what they do because of their feelings, most of which are not conscious. It is necessary to remove uncomfortable feelings that prevent people from thinking clearly and giving correct information. Signs of discomfort are nervousness and anger. The interviewer must guard against showing irritation or letting his own prejudices affect his behavior during the interview. As to the interview itself, sufficient time, trained attention, and privacy are minimum essentials for good interviewing. A listening attitude and sympathy are needed to bring the person to talk freely. When the information has been gathered, the interview may be terminated by standing politely or gathering up the papers. Two notes of warning are: Guard

against a patronizing attitude. Remember the confidential nature of the information.—*G. R. Thornton* (Purdue).

[See also abstracts 4531, 4719, 4727, 4756.]

EDUCATIONAL PSYCHOLOGY

(incl. Vocational Guidance)

4718. [Anon.] The Southend attainment test in mechanical arithmetic. London: Harrap, 1940. 8 sets of test sheets. In packets of 50 of any one set, 2s. Handbook, with instructions and answers, 6d.—The arithmetic test has been normed for an elementary school population in an area reorganized according to the findings of the Hadow report. Although the test begins at the pre-six-year level, it was designed for use in the junior and senior departments. The child's basic arithmetic age is determined by the first year-group in which he can pass all test items.—(Courtesy *Brit. J. educ. Psychol.*).

4719. *Barnette, W. L.* Norms of business college students on standardized tests: intelligence, clerical ability, English. *J. appl. Psychol.*, 1940, 24, 237-243.—The performance of business college students on the Thurstone ACE, the Minnesota clerical, and the Iowa English training (Series IB) tests was studied. The business college students were found to be slightly inferior to college students on the Thurstone test, and about equal to them on the Iowa test. On the Minnesota clerical test they were found to be superior to the adult gainfully employed but inferior to employed clerical workers.—*E. E. Ghiselli* (California).

4720. *Bass, R.* Studies for the years 1937-1939 listed in the files of the committee for research for the National Association of Directors of Physical Education for College Women. *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 150-168.—This is a classified bibliography of research under way or completed by staff members and graduate students. Among the sub-headings under which the 350 titles appear are: attitudes, interest, leadership, motor learning, motor skills, psychology, tests and measurements, and traits.—*F. W. Finger* (Brown).

4721. *Blackwell, A. M.* A comparative investigation into the factors involved in mathematical ability of boys and girls. *Brit. J. educ. Psychol.*, 1940, 10, 143-153.—This is Part I of the report of a study of the mental components of mathematical ability of boys and girls in the age range 13½ to 15 years. Since a preliminary inquiry as to the possibility of employing in the factorial study a standardized test of mathematical ability (Rogers) revealed correlation coefficients of test results and school grades too low to warrant the use of this test in securing data for the statistical analysis, a special test battery was assembled in such a way as to include the mental abilities theoretically expected to be the main factors in mathematical ability. This battery, consisting of ten tests, five of which

were verbal, was given to groups of secondary school children, of which the completed scores of 200, equally divided between boys and girls, were used for the subsequent statistical analysis. Tables of the intercorrelations, which are all positive or zero, are presented, together with listings of the factor loadings as determined by Thurstone's centroid method. Discussion of the results is reserved for Part II of the article, which will appear in the next issue.—*R. C. Strassburger* (St. Joseph's College).

4722. Blatz, W. E. *Hostages to peace: parents and the children of democracy*. New York: Morrow, 1940. Pp. 208. \$2.00.—Popular application of psychological concepts to current problems of the organization of a democratic and peaceful way of life; offered in the form of letters to an American mother. The chapter headings suggest the concepts dealt with: war in every generation?; patriotism; the nursery of Mars; in place of terror; the discipline of freedom; prestige—its cause and cure; the sense of power; military toys; the beginning of wisdom. The keynote is control and direction of human emotions. "War is not an instinct. There are no social instincts. Human beings have more to learn than any other species. Education, and not propaganda or censorship, is the ideal directive method."—*L. J. Stone* (Vassar).

4723. Briggs, T. H., & others. *The emotionalized attitudes: the contribution of research to teachers concerned with learning, conduct and character*. New York: Bureau of Publications, Teachers College, Columbia University, 1940. Pp. v + 107. \$0.90.—The nature and conclusions of research on emotionalized attitudes are systematically surveyed and discussed for the teacher as follows: the various techniques for measuring attitudes by means of verbalizations, the reliability and validity of such methods, and a list of attitude tests selected for the use of teachers; the principal causal factors of emotionalized attitudes, such as consciousness of atypical conditions, sex, maturation, vicarious experiences, personal influences, institutions, social mores, trauma, and environmental influences; the effects of emotionalized attitudes upon learning, character, and conduct; the modification of emotionalized attitudes by individuals and institutions, by experience with an emotional concomitant, by instruction, by repetition, and by release of emotional tension. A selected bibliography.—*J. H. Jackson* (Brown).

4724. Bruce, L. *The relationship between scores on the CAVD intelligence scale and success in graduate work at Colorado State College of Education*. *J. exp. Educ.*, 1940, 8, 300-302.—The evidence from this study shows that the I.E.R. intelligence scale CAVD, levels M, N, O, P and Q is a discriminative instrument for determining the range of abilities of graduate students on the master's level. It is virtually certain that those students whose scores are above the 75th percentile on the CAVD will make higher marks on the average than those

students whose scores on the CAVD lie below the 25th percentile.—*H. W. Karn* (Pittsburgh).

4725. Christensen, A. *The determination of a reading vocabulary in junior high school hygiene*. *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 121-125.—On the basis of a sampling of the words in 7 widely-used junior high school hygiene text books, the writer presents, a list of the most frequently used words (excepting those occurring in the Ayres or the Thorndike list of common words) and the number of times each appears.—*F. W. Finger* (Brown).

4726. Cureton, E. E. *Evaluation or guidance? The report of the eighth annual national college sophomore testing program April 17 to May 5, 1939*. *J. exp. Educ.*, 1940, 8, 308-340.—This report is based on the results secured by 118 colleges and universities which participated in the 1939 national college sophomore testing program. Normative and statistical data for evaluation of the various tests are presented. The author notes that, up to the present time, the results of the testing programs have been used primarily for purposes of evaluation. In order to encourage the guidance aspect of the program, considerable discussion is devoted to the techniques of using comprehensive comparable tests for guidance purposes, with particular reference to the needs of colleges which do not possess special personnel and guidance officers.—*H. W. Karn* (Pittsburgh).

4727. Cushman, F. *Training trainers to train*. *Employ. Secur. Rev.*, 1940, 7, No. 2, 3-8.—Training trainers is a specific example of vocational training, on a level one step removed from the actual job. In order to be a successful trainer, the instructor must (1) know his subject well, (2) be able to impart what he knows, (3) have a well-balanced personality. Other aspects of a training program and conditions affecting its success are discussed briefly.—*G. R. Thornton* (Purdue).

4728. Edgerton, H. A., & others. *Statistical studies of a college freshmen testing program*. *J. exp. Educ.*, 1940, 8, 247-292.—The articles which make up this report are the products of a class in statistics at Ohio State University which dealt with real problems in terms of actual data and arrived at conclusions which were of importance to college officials. The articles constitute a comprehensive study of a series of five evaluation devices which were used in conjunction with an orientation course for college freshmen. A unique feature of the articles is that they all have exactly the same individuals included in the statistical samples used.—*H. W. Karn* (Pittsburgh).

4729. Evans, H. A. *The secondary school careers of children not recommended by heads of their elementary schools*. *Brit. J. educ. Psychol.*, 1940, 10, 154-170.—Comparison is made of the academic achievement in the secondary school of 1273 children, both boys and girls, who, although not recommended for secondary education, succeeded in passing the admission examination, with

the scholastic careers of 5706 selected or recommended pupils. In terms of the percentages of selected and non-selected pupils represented in the four numerically equal groups obtained by dividing the distribution of admission examination scores at the quartile points, the non-selected children as a whole are inferior. At the end of the first year in the secondary school this relationship still exists, although one third of the non-selected pupils perform at or above the average for the whole group of admitted children. No marked change occurs in the relative performance at the end of the fourth academic year. Evidence of a tendency among non-selected children to improve, in their scholastic achievement, upon their earlier performance in the admission examination is noted. The results of the study suggest further basis for provision for a transition to a secondary type of education at a later age.—*R. C. Strassburger* (St. Joseph's College).

4730. Frank, L. K. *The reorientation of education to the promotion of mental hygiene.* *Ment. Hyg., N. Y.*, 1939, 23, 529-543.—*P. Brand* (New York City).

4731. Gray, R. A. *Bibliography of research studies in education 1937-1938.* *U. S. Off. Educ. Bull.*, 1939, No. 5. Pp. 400 + xv. \$0.35.—This bibliography lists 3890 theses and studies reported by 159 institutions on topics in the several fields of education. The list includes 519 doctors' dissertations, 3146 masters' theses, and 225 studies reported as faculty research. Each entry gives author, title, degree, date when thesis was completed, name of the institution granting the degree, number of pages, a brief descriptive note, and where possible the place and date of publication.—*G. R. Thornton* (Purdue).

4732. Gruenberg, B. C., & Kaukonen, J. L. *High schools and sex education.* *U. S. publ. Hlth Serv., Educ. Publ.*, 1940, No. 7. Pp. xix + 110. \$0.20.—This manual is intended to help the capable and well-adjusted teacher who already has the will to find a way to guide youth in this field. Part I deals with the problem of planning and organization of a program of sex education. Part II discusses sex education in relation to the curricular subjects, biology, general science, physiology and hygiene, physical education, home economics, social studies, and English. Four appendices present (1) a reading list for teachers, (2) a reading list for students, (3) pamphlets and visual aids, (4) a suggested outline of a course for training teachers of sex education.—*G. R. Thornton* (Purdue).

4733. Hazelton, H. W., & Piper, J. *A study of the social values of a team game and of two individual sports as judged by the attitudes of freshman college women.* *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 54-59.—The attitudes of students taking team sports were compared with those of students electing individual sports in their freshman physical education course. It is concluded that it is a good policy to advise newly entering freshmen to elect speed ball or field hockey (team games) in

their first quarter of work at the university, as an aid to their feeling a part of the group and as an opportunity for social development.—*F. W. Finger* (Brown).

4734. Heck, A. O. *The education of exceptional children.* New York: McGraw-Hill, 1940. Pp. ix + 536. \$3.75.—This book deals with the organization, supervision, administration, and education of children who deviate significantly from the average in physical, social, or mental characteristics. The first part of the book deals with the education of the socially maladjusted child. This section considers his education and rehabilitation in state schools and special schools and classes in city school systems. The second part of the book describes the characteristics and educational procedures for the crippled, the blind, the child with defective vision, the deaf and hard-of-hearing, the speech defective, and the virtually handicapped. The third part of the book considers the education of the mentally defective and the gifted. The fourth part discusses the problems of administration in state and city school systems. Throughout the book the author points out the advantages of special educational provisions for exceptional children.—*S. A. Kirk* (Milwaukee State Teachers College).

4735. Khatchapuridze, B. J. [The new didactic play materials and plays in connection with the tasks of preschool education.] Tiflis: 1939. Pp. 184.—A special system of play material for the mastering of colors and geometrical forms was given to children of 5-7 years in a series of plays. The working out of the child's attitude of perception is fulfilled through the representation of concrete material in dynamic exposition. The didactic character of plays permits the discrimination of color, number, size, disposition, and order of the given object, and the examination of the achievements of each child.—*A. Yarmolenko* (Leningrad).

4736. Kido, M. [Psychological tests in educational guidance.] *Jap. J. Psychol.*, 1940, 15, 57-61.—The author stresses that the order of merit in school performance coincides to a pretty high extent with the results of psychological tests and should properly be consulted as a necessary means for educational and vocational guidance.—*R. Kuroda* (Keijo).

4737. Kirk, S. A. *Teaching reading to slow-learning children.* Boston: Houghton Mifflin, 1940. Pp. viii + 225. \$1.50.—In the first chapter the author summarizes the characteristics of mentally retarded children and gives the various organizational procedures employed in their education. The rest of the book, consisting of six chapters, deals with the reading status of mentally retarded children, pre-reading activities, methods of teaching beginning reading, methods of increasing the efficiency of reading, the problem of reading defects in the mentally retarded, and finally the reading problem of the dull-normal child. The book consists of numerous specific suggestions on the teaching of reading at various stages of development. A bibliography of

children's books suitable for slow-learning children is included in the appendix.—S. A. Kirk (Milwaukee State Teachers College).

4738. Laycock, S. R. Social and emotional aspects of readiness for school. *Understanding the Child*, 1940, 9, No. 2, 20-23.—Social and emotional development of children is dependent upon parental management. The factors are self-help, locomotion, occupational tendencies, communication, and socialization.—S. A. Kirk (Milwaukee State Teachers College).

4739. Leaf, C. T. Prediction of college marks. *J. exp. Educ.*, 1940, 8, 303-307.—This article reports the development and validation of two regression equations used in predicting the average college marks of freshmen students at La Salle-Peru-Oglesby Junior College, La Salle, Illinois, and Colorado State Teachers College, Greeley, Colorado. The equations predict the average college mark of approximately 68% of the students within .44 and .40 of a letter mark.—H. W. Karn (Pittsburgh).

4740. Lowrey, L. G. Readiness for school: a psychiatrist's viewpoint. *Understanding the Child*, 1940, 9, No. 2, 4-7.—Readiness for school on the part of a child requires a feeling of security, established in the home and at school.—S. A. Kirk (Milwaukee State Teachers College).

4741. Meng, H. Über die psychische struktur des Schülers bei den verschiedenen Schulübertrittstufen. (The psychic structure of the pupil at the various stages of change of school status.) *Schweis. Erzieh. Rdsch.*, 1939, No. 8.—A consideration of the mental hygiene and educational aspects of development as related to various levels of school status.—D. Shakow (Worcester State Hospital).

4742. Monroe, M. Determining reading readiness. *Understanding the Child*, 1940, 9, No. 2, 15-19.—Readiness for reading requires sufficient mental age, certain physical abilities, social adjustment, understanding of language, the ability to make fine discriminations, and a felt need for reading. A suggested program for testing first-grade entrants is given.—S. A. Kirk (Milwaukee State Teachers College).

4743. Murphy, W. C. The problem of the dull child. *Ment. Hyg. Rev.*, 1940, 1, 40-45.—The dull child is the one who fails in school and often acquires a defeatist attitude which makes accomplishment doubly hard. Schools have introduced special programs, tutoring, increased manual work, and special clinical services to meet the need of this group.—C. M. Louttit (Indiana).

4744. Østlyngen, E. Über die Stellungnahme norwegischer Volksschüler zu Schule und Schulbüchern. (Concerning the attitudes of Norwegian public-school children towards school and school subjects.) *Z. angew. Psychol.*, 1940, 58, 385-390.—1943 children in grades 2 to 7 were given a questionnaire to determine their attitude toward school and subject matter taught. Results: (1) there is a progressive drop in interest in school from grade 2

to grade 7; (2) this drop is greater for boys than for girls; (3) it is greater for children from the higher income group; and (4) it is greater for those in the lower third of their class. In general, subjects best liked throughout these grades were, for both boys and girls, gymnastics, manual training, arithmetic, drawing, and reading. Least liked were grammar, singing, handwriting, and physics. Interest in the less-liked courses was more dependent upon liking for the instructor than in the well-liked courses.—G. F. J. Lehner (University of Miami).

4745. Palmer, H. D. Common emotional problems encountered in a college mental-hygiene service. *Ment. Hyg., N. Y.*, 1939, 23, 544-547.—P. Brand (New York City).

4746. Sarbin, T. R. The case record in psychological counseling. *J. appl. Psychol.*, 1940, 24, 184-197.—Types of case records and the functions and characteristics of good case notes are discussed. Illustrative examples are given from case records.—E. E. Ghiselli (California).

4747. Scott, M. G. Achievement examinations for elementary and intermediate swimming classes. *Res. Quart. Amer. Ass. Hlth phys. Educ.*, 1940, 11, 100-111.—This article describes the construction of an objective written test that is said to prove satisfactory as a swimming achievement test. The test questions and multipliers are given.—F. W. Finger (Brown).

4748. Seder, M. A correlation study of the Cooperative mathematics test for grades 7, 8, and 9. *Educ. Rec. Bull.*, 1939, 27, 49-53.—Data are presented on the reliability of the total score and the scores on subtests, the interrelation of subtests and the relation of scores on forms O and P to scores on the Cooperative elementary algebra test, the cooperative intermediate algebra test, and the Metropolitan arithmetic fundamentals and problems tests.—M. Keller (Yale).

4749. Seder, M. Vocational interests of professional women. Part I. *J. appl. Psychol.*, 1940, 24, 130-143.—"Both women physicians and life insurance saleswomen obtained much the same ratings on the men's (Strong Vocational Interest) as on the women's blank for occupations for which both blanks were scored." "The results of factor analysis show that keys with the same names for the two Vocational Interest Blanks have similar factor loadings except in the case of the lawyers' keys." "No factor appears with heavy loadings just for the men's keys or just for the women's keys."—E. E. Ghiselli (California).

4750. Sherman, M. Mentalhygiejne og opdragelse. (Mental hygiene and education.) Copenhagen: E. Munksgaard, 1940. Kr. 7.75.—See IX: 958.—R. R. Willoughby (Brown).

4751. Snyder, L. M. Personnel cards give composite pictures. *Occupations*, 1940, 18, 583-587.—An analysis of certain data from personnel cards filled out by entering freshmen at the Los Angeles City (Junior) College. Students choose occupations in the same descending order as their abilities, the

majority aiming higher than their fathers on the Barr-Taussig scale. Three fourths attempt more education than their parents enjoyed. Most of them are in a rather healthy mental state. The uses of the cards are pointed out.—*H. Schlosberg* (Brown).

4752. Sorenson, H. *Psychology in education*. New York: McGraw-Hill, 1940. Pp. xi + 489. \$2.75.—In this book of thirty chapters considerable attention is paid to the topics of growth, development and adjustment. The interrelationship of these phases is indicated with particular stress laid on the importance of understanding the emotional reactions and the personal adjustment of the pupil during the learning process. Problems of learning are given a prominent place. No particular school of psychology is emphasized, and the experiments reported have been rewritten to guide a student who lacks the technical preparation to understand the references in professional journals. Each chapter begins with a section designed to orient the reader to the main chapter topic, reviews selected experimental approaches, and then deals with an interpretation of the findings in relation to their theoretical significance and their practical application in life.—*P. S. de Q. Cabot* (Simmons).

4753. Spache, G. *Validity and reliability of the proposed classification of spelling errors. II.* *J. educ. Psychol.*, 1940, 31, 204-214.—The proposed system of classifying errors is valid but not useful as a diagnostic aid, since the tendency to err in certain ways is not sufficiently reliable. Total reliability of the classification is high.—*R. M. Bellows* (Maryland).

4754. Stuit, D. B., & Donnelly, M. C. *Performances in the Iowa qualifying examination of majors in various academic departments with implications for counseling.* *J. exp. Educ.*, 1940, 8, 293-299.—Data in this study were obtained from graduates of nine major departments in the State University of Iowa. All the subjects had taken the Iowa qualifying examination upon entrance to the university as freshmen. Analysis of the data reveals differential characteristics of majors in the various academic departments on the Iowa qualifying examination. It is suggested that such information should afford valuable supplementary material in counseling a student concerning the choice of a major subject.—*H. W. Karn* (Pittsburgh).

4755. Stump, N. F. *A comparison of scores on a study inventory with self-adjudged improvement on a number of study factors.* *J. educ. Psychol.*, 1940, 31, 223-228.—Samples of freshmen and sophomores were compared in a number of study habits. Self ratings in power of concentration appeared significant.—*R. M. Bellows* (Maryland).

4756. Super, D. E. *Avocational interest patterns; a study in the psychology of avocations.* Stanford University, Calif.: Stanford Univ. Press, 1940. Pp. xiv + 147. \$2.25.—The first effort to determine patterns of avocational interest and a complete review of studies in the field of vocational interest measurement are reported. "Avocational items have been

found to have discriminative value in vocational interest inventories, suggesting the existence of avocational interest patterns related to vocational ones." The author selected the Strong vocational interest blank as means of determining avocational interest patterns. After determining that mental set did not affect the scores, he used Strong's method in developing scoring keys for each of the four avocations selected for the study. "The vocational interest scores of 200 hobbyists, the avocational scores of 87 men classified by occupations, and the intercorrelation of vocational and avocational interest scores were analyzed," yielding many significant relationships. As a result of his investigation Super concludes (in part) that avocations are valuable in vocational diagnosis and in vocational orientation of adolescents, and that existing vocational-interest inventories and scoring keys, because of their correlation with avocations, can be used in avocational and leisure-time guidance.—*M. A. Seidenfled* (Tuberculosis Institute).

4757. Tschecthelin, M. A., Hipskind, M. J. F., & Remmers, H. H. *Measuring the attitudes of elementary-school children toward their teachers.* *J. educ. Psychol.*, 1940, 31, 195-203.—General survey and diagnostic attitude scales were developed to measure pupils' attitudes toward teachers. A scale was then applied to 1357 children in grades IV to VIII. Attitudes as measured did not correlate with grades, group intelligence test scores, or chronological ages. The instrument has sufficient reliability and validity for use as an aid in teacher training, in administrative evaluation, and in studying relations of various factors to pupil achievement.—*R. M. Bellows* (Maryland).

4758. Veiders, E. *Schülerbeobachtung als Grundlage pädagogischer Schularbeit.* (Observation of pupils as the basis of school education.) *Z. pädag. Psychol.*, 1940, 41, 61-75.—A discussion relating to German school conditions. The understanding and description of the child center on his hereditary constitution and its racial value, his other qualities being derived from these points. Veiders disagrees with the opinion that the child's real education should be entrusted wholly to the youth organizations and the teachers become simply instructors.—*M. E. Morse* (Baltimore).

4759. Williamson, E. G., & Hahn, M. E. *Introduction to high school counseling.* New York: McGraw-Hill, 1940. Pp. 323. \$3.00.

4760. Yakimova, J. A. [An experiment on education of the deaf blind.] *Vop. surdopedag.*, 1940, 291-327.—A history of the education of a group of deaf blind children, of the pedagogical system and attainments, and several pedagogical and psychological characteristics of these children.—*A. Yarmolenko* (Leningrad).

4761. Young, J. A. *Speech rehabilitation in the rural schools of Waukesha County, Wisconsin.* *J. Speech Disorders*, 1940, 5, 25-28.—The author lists the obstacles met in introducing a speech rehabilita-

tion program in rural schools and gives procedures used in overcoming them.—C. V. Hudgins (Clarke School).

[See also abstracts 4488, 4648, 4706, 4711, 4811, 4821.]

MENTAL TESTS

4762. Anderson, R. G. Fifth revision of Kuhlmann-Anderson tests. *J. appl. Psychol.*, 1940, 24, 198-206.—A revision of the Kuhlmann-Anderson tests with an increased range of mental ages is described. Evidence is presented to indicate that something beyond school achievement and general maturation is being measured.—E. E. Ghiselli (California).

4763. [Anon.] The Southend group test of intelligence. London: Harrap, 1940. Pp. 8. In packets of 25, 6s. Handbook, with instructions, key and norms, 9d.—This test is designed to grade normal children who are about to enter the senior school, and is suitable for ages 10½ to 13 years. The items are graded in difficulty and consist of both verbal and non-verbal classifications and analogies. They are selected from tests which were originated by Stephenson at the Psychological Laboratory, University College, London.—(Courtesy *Brit. J. educ. Psychol.*).

4764. Baumgarten-Tramer, F. La méthode des cas possibles dans la solution des tests. (The method of possible cases in the solution of a test.) *J. Psychol. norm. path.*, 1939, 36, 99-107.—It is evident that to judge a subject carefully it is not enough to know that his answer to a test question is right or wrong; one must know also the manner in which he arrived at the solution. The author experimented with formboards, puzzles, and other simple materials to find out how subjects went about solving these problems. She then divided people into types on the basis of how they attacked them.—R. E. Perl (New York City).

4765. Baumgarten-Tramer, F., & Tramer, M. Le quotient de rendement. (The performance quotient.) *Année psychol.*, 1940, 39, 259-262.—The authors suggest that test performance can be expressed better and more simply in terms of the percentage of possible points obtained by the subject than in terms of centiles as proposed by Claparède.—H. Beaumont (Kentucky).

4766. Brody, L. Comparable tests of verbal and non-verbal reasoning: their construction and application to developmental problems. *J. educ. Psychol.*, 1940, 31, 180-194.—Verbal and non-verbal tests of reasoning for grades IV through XII were devised and checked on 1500 public-school pupils. The two kinds of tests were, for practical purposes, comparable. Use of comparable non-verbal tests in situations where the language factor must be controlled is emphasized. Age differences for verbal concrete, non-verbal concrete, verbal abstract, and non-verbal abstract reasoning are analyzed. Verbal

reasoning ability shows a strong tendency to increase after age 17.—R. M. Bellows (Maryland).

4767. Brown, A. W. The development and standardization of the Chicago non-verbal examination. *J. appl. Psychol.*, 1940, 24, 122-129.—Norms for the Chicago test administered with either verbal or pantomime directions.—E. E. Ghiselli (California).

4768. Cattell, R. B. A culture-free intelligence test. I. *J. educ. Psychol.*, 1940, 31, 161-179.—The dependence of tests of the Binet-revision type upon culture and education is decried because this defeats many of the purposes of such tests. Construction of test items on the basis of "greatest common knowledge" of subject matter is considered, and the origins of the perceptual intelligence are traced. Mazes, series, classification, progressive matrices (three types), and mirror images are discussed as suitable subtests and are recommended for studying subjects of different social and cultural levels.—R. M. Bellows (Maryland).

4769. Riis, J. Noen intelligensundersøkelser i middelskole og gymnasium. (Some intelligence investigations in middle schools and gymnasia.) *Tidsskr. norske Laegeforen.*, 1940, 60, 401-406.—An account of 500-600 intelligence measurements of boy and girl pupils aged 14-19 in middle schools and gymnasia in Norway, using the American Army Alpha, adapted for Norway by Reymert. With this test the average score for Norwegian adults is 105. The writer observes that it seems to be difficult for Norwegian students to graduate from the gymnasium with a score of 95 or less, and that there is danger of not graduating with scores up to 125. On the whole he concludes that the Norwegian revision of the Army Alpha has good prognostic value for school achievement, including graduation from the gymnasium. Graphs.—M. L. Reymert (Mooseheart Laboratory for Child Research).

4770. Shanner, W. M. A report on the Thurstone tests for primary mental abilities. *Educ. Rec. Bull.*, 1939, 27, 54-60.—These tests attempt to make a diagnostic measurement of the specific abilities of an individual. According to the analysis presented here, "The battery of tests is satisfactorily reliable and the intercorrelations for the ability scores are sufficiently low to indicate considerable independence of mental factors measured, even though they are not so low as one should desire. Although there should be additional refinement and improvement of the tests and further research concerning the interpretation of the results, the available evidence indicates that the tests in their present form unquestionably constitute a valuable addition to the field of aptitude testing."—M. Keller (Yale).

4771. Sugisaki, Y. [The standards of the aptitude test.] *Jap. J. Psychol.*, 1940, 15, 41-56.—R. Kuroda (Keijo).

4772. Thomson, W. A. Note on retest results on the ACE psychological examination for college freshmen. *J. educ. Psychol.*, 1940, 31, 229-233.—106 subjects took one form of the ACE psychological

examination in high school and another after an interval of 8 months, at the time of entrance to college. Test-retest reliabilities for subtests ranged from .53 for analogies to .78 for artificial language. Gross score reliability was .88.—*R. M. Bellows* (Maryland).

4773. *Thurstone, L. L., & Thurstone, T. G.* The American Council on Education examinations, 1939 editions. *Amer. Coun. Educ. Stud.*, 1940, No. 2. Pp. 37.—A summary of all returns received on the 1939 hand-scored and machine-scored editions of the American Council on Education psychological examinations is presented. 374 colleges have reported the scores of over 8300 students on the test for college freshmen. Records of the scores of nearly 20,000 high school students have also been received on the high school test. The norms for these tests are presented in percentile ranks.—*M. Keller* (Yale).

4774. *Traxler, A. E.* A study of the Junior Scholastic Aptitude Test. *Educ. Rec. Bull.*, 1939, 27, 61-75.—"On the whole, the results of this preliminary study indicate that this new test should prove very valuable for the measurement of academic aptitude in the grades for which it was designed, namely, Grades VII, VIII, and IX of independent schools and Grades VIII, IX, and X of public schools."—*M. Keller* (Yale).

4775. *Werner, H.* A comparative study of a small group of clinical tests. *J. appl. Psychol.*, 1940, 24, 231-236.—The performance of normal children was compared on the Stanford-Binet, the Healy pictorial completion II, the Trabue-Kelly-Spivak language completion, the Ferguson form boards, and the Lowe-Shimberg scaled information tests. On the basis of the correlations between the scores on these tests it was concluded that the Trabue-Kelly-Spivak and the Lowe-Shimberg tests may be used to substantiate ratings on the Stanford-Binet test, as well as giving additional information regarding the individual; the other two tests evidently measure abilities independent of those measured by the Stanford-Binet, and are primarily valuable for supplementary information.—*E. E. Ghiselli* (California).

[See also abstracts 4334, 4680, 4715, 4724, 4776.]

CHILDHOOD AND ADOLESCENCE

4776. *Baumgarten-Tramer, F.* Was ist ein Soldat? (What is a soldier?) *Schweiz. Erzieh.-Rdsch.*, 1940, 12, 217-222.—The author asked 218 children in Bern, between the ages of 10 and 13 years, "What is a soldier?"—a question that appears in the Binet-Simon test at the 5-year level. The answers are recorded and discussed according to age groups. Definitions of the 10-year-olds refer principally to the functions and the external characteristics of a soldier. Those of the 13-year-olds include the concepts of duty and honor, as well as an appreciation of the different kinds of soldiers.—*G. F. J. Lehner* (University of Miami).

4777. *Blanchard, P.* The importance of the first interviews in therapeutic work with children. *Smith Coll. Stud. soc. Work*, 1940, 10, 267-284.—Seldom, if ever, is a child brought to a clinic for treatment with any real understanding of his misbehavior. He may have treatment thrust upon him by the will of some adult authority or he may be brought for treatment by some deceptive means. Hence there is likely to be in the first interview a feeling of fear and humiliation which must be met and understood by the therapist in such a way that the child gradually becomes able to express his own unconscious feeling of need for treatment in the wish for a continuing relationship with the therapist.—*K. S. Yum* (Chicago).

4778. *Chadwick, M.* Twenty years of child psychology. *Z. Kinderpsychiat.*, 1940, 6, 175-178.—Concluding installment of a review of important findings of the last twenty years in the field of child personality development. This section is concerned with the treatment of early forms of neurosis.—*D. Shakow* (Worcester State Hospital).

4779. *Conn, J. H.* The play-interview: a method of studying children's attitudes. *Amer. J. Dis. Child.*, 1939, 58, No. 6.—The use of play materials as a method of obtaining data as opposed to the direct verbal interview technique. Various examples indicating the adequacy of the method are presented.—*D. Shakow* (Worcester State Hospital).

4780. *Cousinet, R.* L'idée de la mort chez les enfants. (The idea of death in children.) *J. Psychol. norm. path.*, 1939, 36, 65-76.—Psychologists, with few exceptions, have avoided the question of children's ideas about death. The author finds that the child at first refuses to accept the idea at all. Then he may substitute a tentative solution, such as that death is a more serious disease than any other sickness but a disease that can be cured under certain conditions, or that death comes in two steps, first a provisional death from which one may be reclaimed after many months and then a final and everlasting death. Finally he arrives at the stage where he does not understand the nature of death but has placed the concept of death in the organization of his mental world in such a way that it no longer troubles him.—*R. E. Perl* (New York City).

4781. *Dix, C. W.* Das Seelenleben des Kindes im ersten Lebensjahr. (The mental life of the child in the first year of life.) Jena: Gustav Fischer, 1939. RM. 7.—A handbook for teachers and students based on the work of Stern, Gesell, Charlotte Bühler, Freud and others and on the author's own observations.—*D. Shakow* (Worcester State Hospital).

4782. *Fite, M. D.* Aggressive behavior in young children and children's attitudes toward aggression. *Genet. Psychol. Monogr.*, 1940, 22, 151-319.—This was a study of the attitudes of 6 nursery school children toward physically aggressive behavior, in an attempt to discover how nursery-school experience affects these attitudes. From 12 to 15 hours of observation were made on each of the children;

their verbalizations were obtained in an experimental situation. It was found that the children's attitudes were largely "a direct representation of parental attitudes." "There appeared to be no consistent relationship between what the children had to say about 'rights' and 'wrongs' of aggressive behavior and the degree of aggression shown by them." While rules laid down by the parents were of primary importance, attitudes were also influenced by experience with other children, by the child's own personality, and by techniques used by teachers in handling aggression. 14 references.—F. M. Teagarden (Pittsburgh).

4783. Fomenko, K. E. [The perception of pictures of spatial and perspective relations in the preschool age.] In *Psikhologichni doslidzennia. Naookovi zapiski. Kharkov: Derj. Ped. Institut, 1939. Pp. 101-199.*—By transferring pictures from the horizontal to the vertical plane and showing them to children 3-8 years old, the author investigated the development of the child's spatial orientation in drawings. At first the drawing is for the child a part of a peculiar reality not correlated with it. Further, the picture is included in the process of perception, but the child does not yet realize the relation of the picture to reality. At a higher stage, the drawing unites sense and formal aspects, and both are realized by the child. Some conclusions as to how to construct a drawing for preschool children are given.—A. Yarmolenko (Leningrad).

4784. Gyllenswärd, C. Die Pflegekinder, ein gelöstes oder ungelöstes soziales Kinderpflegeproblem. (The foster child, a solved or unsolved social problem.) *Acta paediatr., Stockh., 1939, 25.*—A study of the physical and mental conditions and requirements of 911 Swedish foster children.—D. Shakow (Worcester State Hospital).

4785. Hemm, L. Die unteren Führer in der HJ. Versuch ihrer psychologischen Typengliederung. (The minor leaders of the Hitler Youth. Investigation of their psychological types.) *Beih. Z. angew. Psychol., 1940, No. 87. Pp. 106.*—The author, a leader in the Hitler Youth, presents a typological analysis of 100 other (minor) leaders. The average age of the entire group was 17.6 years. 62 were attending so-called "higher" schools. Information was obtained by means of a questionnaire and through actual observation, over a period of 2½ years, of their methods of work and play. Classified according to purpose (motivation), 67 were listed as heterotropes (motivated by interest in others), 17 as egotropes (motivated by personal reasons), and 9 as ideotropes (interested in the ideology of the movement—the apostles). These three orientations are also correlated with background, manner of work, personality characteristics, etc.—G. F. J. Lehner (University of Miami).

4786. Heymann, K. Entwicklungsfaktoren einer Kindheitsphase. (Developmental factors in a phase of childhood.) *Z. Kinderpsychiat., 1940, 6, 169-175.*—The author is concerned with the period following the "Trotzphase," viz., between 5 and 8

years. Compared with the preceding negativistic phase, there appears to be a tendency toward reversal. Among other ways, this manifests itself in the production of symmetrical designs rather than in the copying of the given designs. The author explains the tendency by relating it to bilateral symmetry which shows itself in the growth of the body, and with general awkwardness.—D. Shakow (Worcester State Hospital).

4787. Ihara, H., & Kido, M. [A study on behavior analysis and character reform of a resistant girl.] *Jap. J. Psychol., 1940, 15, 62-71.*—The authors suggest a need for sufficient consideration of family surroundings as well as of the problem children themselves.—R. Kuroda (Keijo).

4788. James, H. E. O., & Moore, F. T. Adolescent leisure in a working-class district. *Occup. Psychol., London., 1940, 14, 132-145.*—A study of the planned diary records of out-of-school activities of 535 adolescents of ages 12-21 showed that (1) leisure time increases with age, especially in the amount of time spent in talk and dancing, (2) when adolescents join the working group there is an abrupt change from childish forms of play to play that involves like-sex groups, (3) on and after 16 years leisure activities tend to become increasingly heterosexual, whereas before 16 a greater part of the leisure time is devoted to such individual activities as reading and radio-listening, and to like-sex club activities.—H. Moore (Chicago).

4789. Jenkins, R. L., & Gwin, J. Twin and triplet birth ratios. *J. Hered., 1940, 31, 243-248.*—G. C. Schwesinger (American Museum of Natural History).

4790. Jeress, E. P. [The investigation of temperament in preschool children.] In *Psikhologichni doslidzennia. Naookovi zapiski. Kharkov: Derj. Ped. Institut, 1939. Pp. 73-148.*—The fundamental qualities of temperament were investigated in elementary psychic actions (natural reactions). The chronoscopic measurement of speed and dynamoscopic intensity of natural reactions were defined and completed by objective observation of children's behavior in different situations in school. After a historical survey of different doctrines of temperament, the author describes the two polar types of temperament investigated by him: (1) a lively type of temperament, divided into two groups, (a) sanguine with moderate sensitivity, strong and quiet reactions, frequent and easy changes of mood, (b) choleric, with a high grade of psychic sensitivity, strong and quick reactions, and sharp changes of mood; (2) comparatively quiet, with two groups, (a) phlegmatic, with frequent grade of psychic sensitivity, weak and slow psychic reactions, and quiet change of mood; (b) melancholic, with high psychic sensitivity, weak and slow psychic reactions, and slow change of mood. The pedagogical treatment for each type is given.—A. Yarmolenko (Leningrad).

4791. Lange-Cosack, H. Psychiatrie und Neurologie des Kindesalters. (Psychiatry and neurology

of childhood.) *Fortschr. Neurol. Psychiat.*, 1940, 12, 101-120; 121-139.—A review covering titles of some hundred German and other studies.—P. L. Krieger (Leipzig).

4792. Lehmensick, E. Die jugendlichen Berufswünsche. (Adolescent vocational desires.) *Z. angew. Psychol.*, 1940, 58, 343-357.—The author presents a review of several studies on motives for the choice of various vocations. He discusses the relationship between age and such categories as idealistic choice, realistic choice, and choice made on personal evaluation of abilities.—G. F. J. Lehner (University of Miami).

4793. Manwell, E. M., & Faks, S. L. Consider the children—how they grow. Boston: Beacon Press, 1940. Pp. 261. \$1.75.

4794. McCay, J. B., Waring, E. B., & Bull, H. D. Health and development of a group of nursery school children. *Child Developm.*, 1940, 11, 127-141.—66 healthy nursery school children 2-3 years old were studied, and almost daily records were made of sleep, eating, bowel movements, etc. Data are presented on the parents' ages, birth weights, feeding, tooth eruption, walking, early diseases, and other aspects of infant development. In each case a median, interquartile range, and total range are given. Data obtained on entrance to nursery school included weight, height, and other physical measurements, and Merrill-Palmer scores. During the school year observations were made of growth, eating behavior, selection of foods, nervous behavior at lunch, sleeping, outdoor play, elimination, and sickness. In summary the average child is described, but a considerable range of behavior is present.—C. N. Cofer (Brown).

4795. McDowell, E. D. The developmental schedule as a clinical instrument. *J. Speech Disorders*, 1940, 5, 15-17.—Developmental schedules are useful as clinical instruments, but differ from similar schedules used in research laboratories in objectives, selection of items, organization of data, and interpretation. The details of these differences are given.—C. V. Hudgins (Clarke School).

4796. Merry, F. K., & Merry, R. V. From infancy to adolescence. New York: Harper, 1940. Pp. xvii + 330. \$2.00.—This is designed as a text for introductory courses in child development and for discussion groups. It covers the development of the child from the prenatal period to adolescence although most of the material deals with the pre-school age. There is a brief exposition of the historical background, methods frequently used, and some theories. The authors then summarize the chief experimental findings in the development of motor abilities and language, in the measurement of intelligence, learning, emotion, play, graphic and musical expression, reading, interest in radio and movies, personality and social development, and character and religion. Emphasis is placed chiefly on average or normal development but some suggestions are given on wise management by parents

and teachers. There is a selected bibliography.—M. Lee (Chicago, Ill.).

4797. Millard, C. V. The nature and character of preadolescent growth in reading achievement. *Child Developm.*, 1940, 11, 71-114.—Stanford reading scores for 55 preadolescent boys and 62 preadolescent girls over a 3-year period were studied. 576 such scores were available. Equations derived from actual performances pictured the reading development of the whole group accurately. The growth of reading skill approximated a regular, curvilinear development from grade to grade, a result not comparable with the approximate straight-line norms of the Stanford tests. The concept of norms, it is believed, needs revision. Intelligence was found to be positively related to reading achievement. The more intelligent children grew to higher maxima and began and ended the preadolescent reading cycle at earlier ages than children of lower intelligence. Sex differences in reading achievement did not appear when the factor of intelligence was constant.—C. N. Cofer (Brown).

4798. Müller, H. [The social conduct of children of imprisoned parents.] *Dtsch. Z. ges. gerichtl. Med.*, 1939, 31, 316-328.—Criminality in own legitimate children and stepchildren of inmates of a German penal institution was found to be higher than that for the average of the population. In addition, criminality of the own children of these criminals is higher than that of their stepchildren. 15 out of 18 children have been sentenced before the age of 25. The fathers of 11 of these juvenile delinquents have been juvenile delinquents themselves. The development of criminality in repeaters is more influenced by heredity than by environment.—P. L. Krieger (Leipzig).

4799. Murphy, L. B. Interiorization of family experience by normal pre-school children, as revealed by some projective methods. *Psychol. League J.*, 1940, 4, 3-4.—Finger painting and free play with miniature life toys are techniques that may be used to indicate the assimilation by pre-school children of patterns of experience in relation to their families. From the citation of several cases it may be seen that tenseness in and domination by the mother may produce different reactions in children, dependent on other maternal traits and the manner in which the tensions are handled.—C. N. Cofer (Brown).

4800. Oakley, C. A. Drawings of a man by adolescents. *Brit. J. Psychol.*, 1940, 31, 37-60.—The author describes the preparation of an objective scale for examining the drawings of adolescents, from the psychological rather than the scholastic standpoint, to replace the upper part of the Goodenough scale which did not seem satisfactory for older children. The effects of various factors on the ability of the adolescent child to draw a picture of a man were also investigated. This ability seemed to be correlated fairly highly with intelligence, with a tendency to be visible in thinking, with extraversion

and with indirect rather than direct interest in people.—*M. D. Vernon* (Cambridge, England).

4801. O'Brien, F. J. Was Ruth ready for school? *Understanding the Child*, 1940, 9, No. 2, 24-28, 32.—*S. A. Kirk* (Milwaukee State Teachers College).

4802. Ovsepjan, G. T. [The evolution of observation in children.] [*Sci. Mem. pedag. Inst. Herzen*], 1939, 18, 21-59.—The experimental method, uniting the experimental tendency with the pedagogical influence, shows that the stages of observation are not formal structures, following one another as a result of age. They are defined by the contents of the observed picture, by the form and aim of the question put by the experimenter. The dominance in the perception of the whole or the unit depends upon these elements, and on the structure of the picture. In his intellectual evolution the child begins to recognize more deeply the cause-effect subordination revealed through the conclusion or inference.—*A. Yarmolenko* (Leningrad).

4803. Piaget, J., & Szeminska, A. Quelques expériences sur la conservation des quantités continues chez l'enfant. (Some experiments on the preservation of continuous quantities in children.) *J. Psychol. norm. path.*, 1939, 36, 36-65.—The subjects were given two cylindrical receptacles of the same dimensions, containing the same amounts of liquid. The contents of one of these was poured into two smaller receptacles, and the subjects were asked whether the amounts in the small receptacles equaled that in the large receptacle. In examining children's responses to questions of this sort it is possible to distinguish three successive stages. In the first stage the quantity of liquid is augmented or diminished as a function of form and number of receptacles. In the second stage children can recognize the conservation of the liquid either when it is poured into two receptacles but not into three, or when the differences of level or volume are small but not when they are large. In the third stage the conservation of the quantity of liquid is definite and independent of the number or nature of changes of receptacles. The child affirms as a simple and self-evident fact that the amount of liquid is independent of all multiplication of receptacles or redivision of contents.—*R. E. Perl* (New York City).

4804. Plarre, W. Die Darstellung der Bewegung in der Kinderzeichnung. (The representation of movement in children's drawings.) Jena: Gustav Fischer, 1939.—A developmental study of the representation of movement in 220 children ranging in age from 4 to 15. Sex differences and age differences were found.—*D. Shakow* (Worcester State Hospital).

4805. Rand, W., Sweeny, M. E., & Vincent, E. L. Growth and development of the young child. (3rd ed.) Philadelphia: Saunders, 1940. Pp. 462. \$2.75.—Three chapters are devoted to infancy. The first part of early childhood is treated in two chapters and the later period in one chapter. One chapter considers prenatal care and two are given to family life and family relations. As in earlier editions, emphasis is placed upon food requirements

of children and upon research in food chemistry. "Wider studies of more representative groups of infants in the mental growth field have led to some shifts in performance standards." "Further studies in habit training have led to a shift of emphasis in habit formation and in the application of fixed standards in the judgment of success in the learning of habits." Each chapter is followed by suggested questions and a short reading list. A bibliography of 221 titles is given. There are appended 20 tables on height, weight and growth.—*F. M. Teagarden* (Pittsburgh).

4806. Reymert, M. L. Relationships between menarcheal age, behavior disorders, and intelligence. *Character & Pers.*, 1940, 8, 292-300.—At the Mooseheart Laboratory, a complete menstrual history is available for each of 138 girls. In this study three menstrual variables are used: (1) *period* (duration of menstruation); (2) *interval* (time between periods); and (3) *amount of flow* (measured by number of pads). The results show the following: (1) range of menarcheal ages, 11.2-15.7 years with a median of 13.1 years; (2) median number of years since menarche, 2.6; (3) *r* between Binet IQ and menarche, -.07; (4) difference between menarche of entire group and that of behavior problem group, insignificant; (5) color-type (brunette, blonde or red) unrelated to menarche; (6) menarche of younger and older sister (30 pairs) unrelated or only slightly so; (7) moderate regularity in length of period after first year; (8) irregularity of length of interval up to maximum age observed; (9) little regularity in amount of flow in same girl; (10) in all three variables, *intra-girl* variance greater than *inter-girl* variance, (11) validity of recalled compared with recorded dates of menarche (after 2.6 years) is .77.—*M. O. Wilson* (Oklahoma).

4807. Richards, S. S., & Wolff, E. The organization and function of play activities in the set-up of a pediatric department: a report of a three-year experiment. *Ment. Hyg., N. Y.*, 1940, 24, 229-237.—A 3-year experiment conducted by Mount Zion Hospital of San Francisco proved that through the hospital play program the child patient learns the care of his health; doctors, nurses, and hospitals are accepted as a normal part of life. The period of convalescence should consist of healthy, creative play activities. A child who has learned to fear hospital illness can be reconditioned through the hospital play program. It also furnishes a method of observing and evaluating the child's play in relation to the problems of his life. The play program provides an opportunity for educating mothers, fathers, nurses, and doctors in the importance and proper use of play.—*P. Brand* (New York City).

4808. Rubinstein, S. L. [Ed.] [Scientific memoirs of the Pedagogical Institute named for A. I. Herzen.] Leningrad: Psychology, Vol. 18, 1939. Pp. 144.—This collected volume contains three articles concerning the evolution of perception and observation in preschool children. All three have the same theoretical conception and the same

doctrine of psychical evolution of children. The investigation tends to follow the children from lower to higher stages, and to determine the laws of evolution in this dynamic process. The elements of pedagogical influence are included in the experiment itself. The preliminary information of B. N. Compansky on the problem of constancy is given. Two critical surveys are given as the second part, as well as a chronicle of the recent investigations of the psychological laboratory.—A. Yarmolenko (Leningrad).

4809. Rubinstein, S. L. [Concerning the stages of observation.] [*Sci. Mem. pedag. Inst. Herzen*], 1939, 18, 7-20.—On the basis of his experimental data the author draws the following conclusions. The stage of enumeration (or the object stage) does not exist as a separate stage. The real stages of observation are the grades of interpretation, as the observation itself is a comprehending of the interpretative perception. There can be distinguished: (1) the assimilative interpretation, (2) the conclusive interpretation tending to extraneous connections, and (3) the conclusive interpretation discovering the abstract interpretative qualities of objects and phenomena and their interrelations. The form of the structure of perception changes also with the change of the contents of observation.—A. Yarmolenko (Leningrad).

4810. Shabalin, S. N. [The objective-gnostic moments in the perception of form in preschool children.] [*Sci. Mem. pedag. Inst. Herzen*], 1939, 18, 59-106.—Observation of the process of perception of contour and silhouette drawings, where only the form of objects is given, shows that for preschool children the form of objects is a primary factor determining their recognition. Geometrical forms are objectivated by the children and perceived as the form of a concrete object. The gnostic tendency is shown by the questions of children.—A. Yarmolenko (Leningrad).

4811. Spock, B. Emotional health of children as viewed by the modern school physician. *Progr. Educ.*, 1940, 17, 186-190.—(*Educ. Abstr.* V: 693).

4812. Stern, E. La sexualité infantile. Résultats d'une enquête. (Child sexuality. Results of an investigation.) *Ann. paediat.*, 1940, 155, 36-52.—A descriptive report of the results of a questionnaire about early sex experiences with particular reference to the circumstances under which the first information about sex matters was obtained. The greater number of the respondents were normal school students.—F. L. Goodenough (Minnesota).

4813. Stirnimann, F., Christoffel, H., & Bovet, L. Die Enuresisprobleme. (The enuresis problem.) *Pro Juventute*, Zürich 1939, Nos. 8 & 9.—A consideration of the problem from the somatic, pedagogic and psychofunctional standpoints.—D. Shakow (Worcester State Hospital).

4814. Straker, A., & Thouless, R. H. Preliminary results of Cambridge survey of evacuated children. *Brit. J. educ. Psychol.*, 1940, 10, 97-113.—An inquiry into the consequences of war-time evacuation

of London school children as manifested in the satisfactoriness of the adjustment established between the evacuated children and their foster-parents reveals on the whole a generally satisfactory relationship in the group of about 300 children studied. The assessment of the quality of the relationship in each case was derived from information obtained from an inquiry card and other sources, and was expressed on a 5-point scale. Study of the possible causes of unsatisfactory adaptation indicates that there is no difference between girls and boys with respect to the satisfactoriness of the foster-parent-child relationship, and the age of the foster-mother is not a relevant factor. Young children, however, seem to experience greater facility in adjustment than older, and the presence of the child's own brothers and sisters in the foster-home is a favorable influence. Boys are relatively unaffected, while girls are inclined toward unsatisfactory adjustment through complete isolation from other children in the foster-home. Intelligence of the child and frequency of visits from the parents appear to be unrelated to the quality of adjustment. Of special behavior difficulties, aggressiveness and delinquency are most clearly associated with poor adaptation.—R. C. Strassburger (St. Joseph's College).

4815. Stürup, G. K. Om børnepsykiatri. III. Vanskelige velbegavede børn. (Concerning child psychiatry. III. Difficult bright children.) *Ugeskr. Laeg.*, 1940, 102, 294-300.—From the children referred to the psychiatric clinic during three years those above 110 IQ were selected for further study. It was found that such children generally, especially in school, exhibit unrest and distraction, and indulge in flights of fantasy to such an extent that they fall back from the general work of the class. The children often show the kind of behavior which is associated with the constitutional type of hyperthymic individuals, but it is a question whether this behavior type is based upon actually observed hypertrophy of the thymus or on the behavior symptoms. This type of behavior should not be taken as an expression of psychopathic constitution. With suitable treatment the prognosis is good. A stay of some months in the country in an open-air colony is important. For these children a more closely adapted, more exacting, and at the same time more liberal form of instruction will presumably prove more suitable than the one now in use.—N. J. Van Steenberg (Iowa).

4816. Sukhov, G. D. [The acquisition of speech by the child in the play process.] In *Psikhologichni doslidzennia. Naokovi zapiski*. Kharkov: Derj. Ped. Institut, 1939. Pp. 65-98.—The activity of the child is defined not by physical stimuli acting on him, but by objects of social-historical origin, realizing the human relation to object and serving for the satisfaction of his needs. The investigation shows that children 3-4 years old are not aware of words and do not master them before mastering the system of play actions offered by the experimenter. Later, at 5-6 years, children are aware of words, accept the play-name, and subordi-

nate to it the use of the play-object. At 6-7 years the child is aware of speech as a whole, each word being for him an acting image. The development of speech is determined not only by the increase of introspection but also by the change of his relation to objective reality. In mastering the object of activity the child at the same time masters his own activity, i.e., acquires knowledge and experience.—*A. Yarmolenko* (Leningrad).

4817. Symonds, P. M. Play technique as a test of readiness. *Understanding the Child*, 1940, 9, No. 2, 8-14.—*S. A. Kirk* (Milwaukee State Teachers College).

4818. Takenaka, T. Jogakusei no goraku chōsa. II. Jogakusei no goraku toshitenō eiga. (An investigation of the amusements of school girls. II. The cinema as an amusement of school girls.) *Kyōiku Shinri Kenkyū*, 1940, 15, 106-129.—In girls of advanced school years the cinema is the most attractive amusement and is artistically appreciated.—*R. Kuroda* (Keijo).

4819. Vernon, M. D. A study of some effects of evacuation on adolescent girls. *Brit. J. educ. Psychol.*, 1940, 10, 114-134.—The problem of alterations in the immediate behavior and more remote changes in the character and attitudes of older school children occasioned by the exigencies of war-time evacuation can be approached by way of a study of the child's relationship to the school group and the broader aspects of school life. Groups of adolescent girls from four secondary schools originally located in the same town, but evacuated for a period of some 6 months, were interviewed, with questioning designed to elicit information about the child's working habits, leisure habits, social relationships, and attitude toward further schooling and future career. The disturbing effects of evacuation are most apparent in respect to social relationships, and in all respects the unsettling consequences observed appear to have direct reference to the personality of the child and to the background of social experience to which she has been subject.—*R. C. Strassburger* (St. Joseph's College).

4820. Vernon, M. D. The relation of cognition and phantasy in children. *Brit. J. Psychol.*, 1940, 30, 273-294; 31, 1-21.—When a child is shown fairly complex picture material, he will, when quite young, respond enumeratively. By age 7, the normal child is able to give simple descriptions which become fuller as his age increases. Irrelevant detail is suppressed, and people's actions and emotions are inferred and described. But the child cannot under-

stand and interpret the picture as a whole till 11 years or more. When he is given fuller opportunity of expressing fantasy, the child shows a similar process of development. With quite young children, invention and imaginative construction are incoherent and apparently meaningless. At 7 years, fantasy inventions appear which are more or less clearly differentiated from what is perceived in the objective situation; there is a lack of integration between cognition and fantasy. At 11 years or over, by the active use of the cognitive abilities, cognitive and fantasy material are synthesized into a single unified imaginative interpretation or construction. In children whose normal development has been prevented by poor health, low intelligence, or emotional disorder, the above stages are modified in various ways; and the child may be unable to reach the final stage of imaginative synthesis.—*M. D. Vernon* (Cambridge, England).

4821. Yodo, A. Seinenki ni okeru hankō. (Rebellious mind of youth.) *Kyōiku Shinri Kenkyū*, 1940, 15, 26-37.—By the questionnaire method 333 high school boys were tested. The results indicate that they resist their parents because of compulsion or interference but resist their teachers for criticism of their conduct. This difference comes from the fact that youth stands near its parents, but some distance exists between them and their teachers.—*R. Kuroda* (Keijo).

4822. Zaporoshetz, A. V. [The role of elements of practice and speech in the development of thinking in children.] In *Psikhologicheskii doslidsennia. Naokovi zapiski*. Kharkov: Derj. Ped. Institut, 1939. Pp. 7-33.—The author investigated, using his own method, the practical intellectual activity of preschool deaf-mute children, not yet taught to speak. A series of similar practical tasks (requiring the transfer of the way of solving them from one task to another) leads the child to the generalization of single situations on the basis of functional quality. The experimental data show that the contents and structure of actions of deaf-mute children differ principally from the most complicated actions of higher animals; these actions conserve their instinctive character. The thinking of the deaf-mute child is not a pre-speech thinking, but even the character of his communications with other people and the contents of their intercourse already form the first stage of speech development.—*A. Yarmolenko* (Leningrad).

[See also abstracts 4337, 4362, 4449, 4572, 4629, 4630, 4631, 4633, 4635, 4637, 4648, 4654, 4659, 4687, 4688, 4734, 4738, 4740.]

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